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21 August 1985

Worldwide Report

TELECOMMUNICATIONS POLICY, RESEARCH, AND DEVELOPMENT

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WORLDWIDE REPORT

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CONTENTS

ASIA

SUB-SAHARAN AFRICA

WEST EUROPE

HONG KONG

PRC TO BUILD TV RELAY STATION TO BEAM TO HONG KONG

HK170642 Hong Kong AFP in English 0332 GMT 17 Jun 85

[Text] Beijing, 17 Jun (AFP)--China is to construct a large television relay station at the mouth of the Pearl River to beam its programs into Hong Kong and Macao, reports reaching here today said.

Three mountain-tops near the river mouth have been selected as provisional sites and transmission tests have been carried out since last month to select the best one, Guangdong Provincial Radio reported.

The report failed to say when the broadcasts would begin, saying only that it would enable "compatriots in Hong Kong and Macao to watch China's television programs."

Hong Kong's program mix of Cantonese kung-fu fighting serials, foreign rock videos, movies and Western-style game shows is popular with mainland viewers in neighboring Guangdong, who construct special antennas to receive the shows.

The mainland's blander fare of educational shows, economic reports, travelogues, Chinese films and patriotic song fests has yet to attract much interest in Hong Kong.

Under a Sino-British joint declaration that came into effect this month, the British-run capitalist enclave is to revert to China in 1997 as a special administrative region with a high degree of autonomy.

CSO: 5500/4150

TELECOM TALKS WITH U.S. END; CAR PHONE SYSTEM ADOPTION URGED

OW201423 Tokyo KYODO in English 1048 GMT 20 Jun 85

[Text] Tokyo, June 20 KYODO -- The United States Thursday asked Japan to adopt the U.S.-style car telephone system at a bilateral meeting of high officials on telecommunications, Japanese officials said.

The U.S. delegation, led by acting U.S. Trade Representative Michael Smith, reiterated its requests that Japan simplify licensing procedures for U.S. wireless equipment including car telephones, increase governmental procurement of U.S. telecommunications equipment and purchase communication and broadcast satellites, the officials said. The two sides agreed to hold technical-level meetings at the earliest opportunity and discuss details of the differences of telecommunications systems between the two nations.

Smith, who led the U.S. team following the retirement earlier this month of Undersecretary of Commerce Lionel Olmer, also asked Japan to follow up its explanation of the newly established telecommunication business law which privatized the Nippon Telegraph and Telephone Co., in April, the officials said.

The meeting, the fourth of its kind since March, was held under the market-oriented, sector-selective (MOSS) system to widen U.S. access to the Japanese telecom market. Both sides agreed to hold the next meeting by the end of August, the officials said.

The Japanese side, led by Vice Minister of Posts and Telecommunications Moriya Koyama, said technical standards for car telephones are now under study by a governmental advisory panel, the officials said. Japan also plans to develop its own technology for broadcast satellites but does not intend to exclude U.S. firms from selling equipment which would not affect the Japanese plan.

CSO: 5560/017

U.S. FIRM TO SUPPLY COMMUNICATIONS SATELLITES

OW220021 Tokyo KYODO in English 0004 GMT 22 Jun 85

[Excerpt] Tokyo, June 22 KYODO -- Japan's first private satellite communications service will start in 1988 using satellites to be imported from the United States, industry sources said Saturday. The two companies to offer the services -- Japan Communications Satellite Co. and Space Communications Corp. -- obtained the official go-ahead Friday from the Posts and Telecommunications Ministry.

Japan Communications Satellite is a joint venture of two Japanese firms -- C. Itoh and Co. and Mitsui and Co. -- and Hughes Communications Inc. of the U.S., while Space Communications has been set up jointly by Mitsubishi Corp. and Mitsubishi Electric Corp. of Japan and Ford Aerospace Satellite of the U.S.

Japan Communications Satellite concluded a 300 million dollar contract with Hughes Communications on June 17 to buy two communications satellites and tracking and control station equipment. The two ventures have the blessings of the Japanese Government, which is expected to include their purchase of U.S.-made satellites among the main features of its "action program" for according foreign products greater access to the Japanese market.

CSO: 5560/018

JAPAN

COMMUNICATIONS SATELLITE TO BE LAUNCHED IN 1992

QW211231 Tokyo KYODO in English 1134 GMT 21 Jun 85

[Text] Tokyo, 21 Jun (KYODO)--The Posts and Telecommunications Ministry has decided to launch Japan's largest ever communications satellite in fiscal 1992 and presented its plans concerning the project to the Space Activities Commission Friday.

The satellite, designed to demonstrate advanced communications technology, will be jointly developed by the Science and Technology Agency, the National Space Development Agency (NSDA) and Nippon Telegraph and Telephone Corp. (NTT), ministry officials said.

The new satellite will weigh two tons, compared with the 350-kilogram Yuri 2a, Japan's largest TV broadcasting satellite currently in orbit.

Tentatively set to blast off from NSDA's Tanegashima space center, southwestern Japan, the satellite will carry advanced communications equipment, including satellite switching systems, the officials said. They said the H-2 rocket now under development by NSDA will be used to lift the huge satellite. If launched successfully, the satellite will be in operation for about 3 years, the officials added.

CSO: 5560/36

JAPAN

TECHNICAL STANDARDS ON PHONES TO BE EASED

OW181345 Tokyo KYODO in English 1014 GMT 18 Jul 85

[Text] Tokyo, 18 Jul (KYODO)--The Japanese Government Thursday decided to ease appreciably the technical standards on telecommunication terminals, such as telephones, facsimiles and private branch exchanges (pbx), effective Saturday. The Ministry of Posts and Telecommunications (MPT) announced a decision to reduce the number of technical requirements for such terminals to 21 from the current 30, under an agreement reached in mid-April between Japanese and U.S. telecom experts. Ministry officials said the Japanese and U.S. experts agreed to minimize such standards--limiting them to those considered necessary to keep the public telephone and data communications circuits intact.

According to the officials, the nine items to be removed include those concerning speech quality of such terminals and noises.

The Japanese officials initially said that if the quality was to be maintained at top level, the 30 technical standards would be needed. The Americans said that the standards are too strict, suspected [as received] that they constituted nontarrif trade barriers and called for keeping the standards to the minimum.

When the government demonopolized telecommunications business 1 April, the ministry reduced the number of such technical standards to 30 from the previous 53. However, the American side pressed for a further reduction.

The ministry Thursday obtained approval of the Telecommunications Council, its advisory panel, for a revision of the ministerial order calling for a reduction in the number of technical standards on telecom terminals to 21.

CSO: 5560/49

SUMITOMO DEVELOPS HIGH-SPEED OPTICAL LAN

OW041135 Tokyo KYODO in English 1102 GMT 4 Jul 85

[Text] Tokyo, 4 Jul (KYODO)--Sumitomo Electric Industries Ltd. said Thursday it has developed a very high-speed optical local area network (LAN), capable of sending figures and images instantaneously. In this system, data can also be transmitted between different types of computer and facsimile, a company spokesman said.

The company developed an "intelligent" node that permits direct insertion of an optical fiber cable into a terminal, making copper cable unnecessary, and making the transmission speed 10 times faster, the spokesman said.

In the conventional optical LAN (in-house data communications network), optical fiber cables are used on the trunk information line. However, terminal equipment and data input-output devices are linked by copper cables, making the transmission relatively slow.

The newly developed node has a 16-bit microprocessing unit capable of converting protocol independently from the host computer (for instance, from English into Japanese, and vice versa). It also has a device capable of converting electrical signals into optical signals and vice versa, also independently from the host computer. These features have made possible high-speed data transmission and data transmission between different types of computer and facsimile, the spokesman said.

The node, which is the infrastructure of a LAN, is a device that performs control functions and thus influences the operation of the network. It is often remote from the host computer, and usually acts on its instructions.

The new Sumitomo node is called "network service board" (NSB), which is protocol- and signal-conversion devices--large-scale integration circuits (LSIS), hybrid integrated circuits (ICS) and other devices mounted on a printed circuit board.

The Sumitomo node (equipped with optical fiber cables ready for insertion into seven to eight terminals), the optical fiber cables and the engineering service and software involved will be offered in package form mainly to software houses, major corporations and university research institutes at about 30 million yen, the spokesman said. The company is ready to supply the new node to overseas users if requested, he added.

CSO: 5560/30

JAPAN

PRIVATE PANEL TO DRAW UP TELECOMMUNICATIONS STANDARDS

OW111111 Tokyo KYODO in English 1041 GMT 11 Jul 85

[Text] Tokyo, July 11 KYODO -- The Ministry of Posts and Telecommunications (MPT) has decided to leave the formulation of telecommunications technical standards to a panel of private experts at the earliest possible date, possibly in fiscal 1986, it was revealed Thursday.

A senior ministry official told KYODO NEWS SERVICE that Japan accepted a U.S. request to that effect at last month's meeting in Tokyo between Morio Koyama, posts and telecommunications vice minister, and Lionel Olmer, U.S. undersecretary of commerce.

According to the official, Olmer explained to Koyama that in the U.S., telecom technical standards are drawn up first by T-1 (telecommunications 1) committee, subject to approval by the American National Standards Institute (ANSI). Both T-1 and ANSI are private organizations. Olmer suggested to Koyama that Japan should adopt the same formula, according to the official.

The official said the telecommunications ministry is now holding consultations with Nippon Telegraph and Telephone Corp. (NTT). He said foreign business representatives would also be admitted to the proposed Japanese T-1 committee.

So far, such technical standards have, in effect, been set by the MPT Ministry, the defunct Nippon Telegraph and Telephone Public Corp. and the Kokusai Denshin Denwa Co. (KDD), which handles international telecommunications.

The official said when the proposed Japanese T-1 committee is inaugurated, the committee would be entrusted with formulating telecom technical standards. The standards formulated will be referred to the telecommunications council, an advisory body to the minister, only if the T-1 committee deems it necessary. The Telecommunications Ministry, in principle, will not intervene in the affairs of the T-1 committee. However, if the interests of member businesses clash, the ministry will step in for coordination. The official said new legislation would be enacted to govern the relations between the government and the T-1 committee.

CSO: 5560/043

BRIEFS

TRANSISTOR FOR SATELLITE COMMUNICATIONS--Tokyo, Jul 3 KYODO -- Fujitsu Ltd. announced Wednesday the development of the world's first gallium arsenic transistor with a "high field" effect, making it suitable for satellite communications. The company said the gallium arsenic field effect transistor (ga. asfet) can effectively amplify high-frequency radio waves and will help improve satellite communications. The new product will be installed in transponders used to relay radio signals between earth stations and satellites. The company said the newly-developed transistor can replace the currently-used vacuum tube, paving the way for production of more compact, light-weight transponders. Transistors developed by Fujitsu can produce more than three watts of output each and will last for up to 1,000 years, compared with an output of 10-15 watts and a 10-year life span for the vacuum tube currently in use. [Text] [Tokyo KYODO in English 1131 GMT 3 Jul 85 OW]

JAPAN-U.S. TELEX SERVICE--Tokyo, July 2 KYODO -- Western Union Telegraph Co. (WUT), the oldest U.S. telex company, and Kokusai Denshin Denwa Kaisha (KDD) Monday started direct two-way telex and telegraph traffic service, a Tokyo representative of WUT said Tuesday. According to the announcement, WUT and KDD have upgraded their previous contract in which telexes from KDD to WUT had to be transmitted via circuit networks of three other U.S. telex companies. With the start of the service, the New Jersey-based company has become the fourth U.S. company to conduct a direct two-way traffic service with Japan, the other three being International Telephone and Telegraph Corp. (ITT), RCA Corp. and Western Union International (WUI), an unrelated organization. WUT and KDD have also opened a Tokyo-New York telex and telegraph route. [Text] [Tokyo KYODO in English 0927 GMT 2 Jul 85 OW]

AID TO TELECOMMUNICATIONS CENTER--Geneva, July 12 KYODO -- Japanese Posts and Telecommunications Minister Megumu Sato Friday said that Japan will extend positive cooperation to the plan of the International Telecommunications Union (ITU) for establishment of a telecommunications development center. Speaking at the ITU's administrative council meeting here, he said that Japan is ready to provide funds and dispatch technicians. The ITU secretariat's plan calls for setting up the center in Geneva, mainly to help developing countries in the field of telecommunications. Referring to a proposal by the Japanese city of Osaka to host the ITU's international telecommunications exhibition in 1989, the minister said that profits accruing from the exhibition will be donated entirely to the planned development center. Sato will leave here Saturday to visit North Yemen before returning home. [Text] [Tokyo KYODO in English 1220 GMT 12 Jul 85 OW]

CSO: 5560/045

PEOPLE'S REPUBLIC OF CHINA

MOBILE TELEPHONE SIGNALLING CHANNEL TRAFFIC ANALYSIS

Beijing TONGXIN XUEBAO [JOURNAL OF CHINA INSTITUTE OF COMMUNICATIONS] in Chinese Vol 5, No 4, Oct 84 pp 95-99

[Article by Zhang Naitong [1728 0035 6639] and Zhang Zhongzhao [1728 0022 0340] of Harbin Institute of Technology: "A Method for Analyzing and Designing Traffic of Signalling Channel on Mobile Telephone Systems"]

[Text] Abstract: This paper discusses a method for analyzing traffic in signalling channels. Specifically, it presents a method for designing a signalling channel that works with a queuing model. Finally, a program for computer simulation is described and some conclusions are given.

I. Introduction

The entire control function in mobile telephone systems is usually carried out by the signalling channel. Therefore, the signalling channel is the key part of a mobile telephone service. Small-capacity mobile telephone systems, in order to simplify equipment, usually adopt a large-zone, cycling, fixed-position (or non-fixed-position) model, i.e., adopting a random signalling channel model, without using a special signalling channel. With continuous increase in the traffic of mobile telephone systems, long duration of access and a rising congestion make the cycling, fixed-position model inapplicable to middle and large-capacity mobile telephone systems. Therefore, mobile telephone systems of medium-capacity and above mostly adopt the shared signalling channel model,[1,3] meaning the signalling channel provides a special set-up channel, which includes an access channel and a paging channel, to handle calls under various circumstances. In order to economically and rationally select the number of signalling channels, the traffic volume and service rank (i.e., call loss in a set-up channel permitted by a system) and the working model of the set-up channel must be first determined.

Usually, a system of 300-10,000 customers is considered a medium-capacity mobile telephone system. When there is not much traffic, in order to economize channels, we can consider using only one group of channels to handle various controlling signals. Adopting the working model of queuing and waiting for the set-up channel can further increase the efficiency of the signalling channel. That is, when calling occurs, if the set-up channel is available, the call is immediately served; when the set-up channel is active,

the call does not withdraw from the system right away, but instead queues up to wait according to the order of calling until the set-up channel is available again and processes the waiting calls according to order. Therefore, we want to know the average waiting time of the set-up channel, the probability distribution of the duration of waiting and other technical indices, so that we can select the correct parameters in designing the system. Theoretically, the erlang-c(erl-c) formula can be used to calculate the call loss in queuing, but the calculation method is complicated. If adopting the method in which the customer automatically withdraws from the system after waiting on hold for a while in order to shorten customers' waiting time, ideal results still cannot be obtained even if the erl-c formula is used. However, if we conduct a simulation of the actual process on a computer, we can easily complete the statistical work. On the following pages, using a middle-capacity mobile telephone system we designed, we will show the model, simulation methods and conclusions of our simulation system.

II. Signalling System Model

With a total of 3,000 customers, our simulated system is a medium-capacity mobile telephone system. Figure 1 shows the network structure of the system. This system adopts a small-zone system and is divided into eight small zones in all. Each small zone has a base station and all base stations are controlled by the mobile control station.

This system is composed of three major parts according to their functions: MSS, MBS and MCS.[2] Figure 2 shows the structure of signalling channels. Usually, signalling channels are divided into two major kinds: speech channel and set-up channel. In this system, all base stations share one group of set-up channels. In order to simplify the model, the following premises are made for this system:

1. $\alpha' = 3$ times/per day per customer. α' represents the number of calls each customer makes per day.

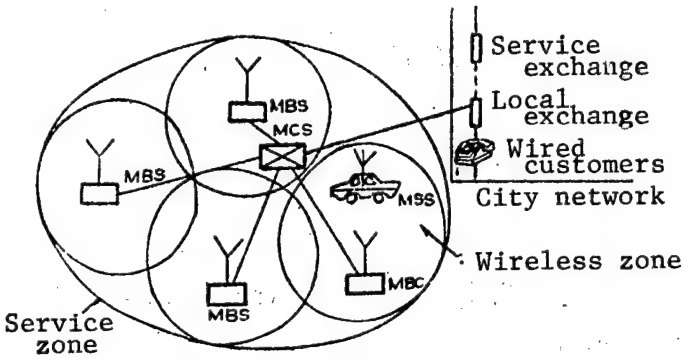
2. $\gamma = 0.1$. γ is the concentration rate when channels are busy.[4]

3. Suppose the interval between two calls assumes exponential distribution, and its average value is $1/\lambda$ (λ means the average number of calls per unit time).

4. According to statistics issued abroad, the rate of channel switching when crossing zones (?) is around 30 percent,[4] and it is related to the speed of vehicles V, duration of communication time T and the small zone's radius R. If we select V = 40 km/h, T = 2 minutes, R = 25 km, then the rate of channel switching when crossing zones is less than 5 percent. In addition, when crossing zones, signals are mainly transmitted through the speech channel, and the set-up channel is comparatively less affected. Therefore, in order to simplify the model, we may omit the effect caused by channel switching when crossing zones.

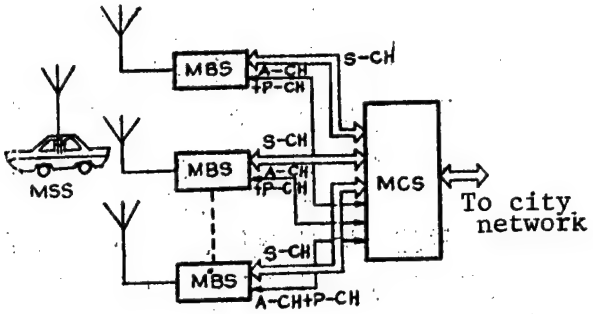
5. The set-up channel is made up of the paging channel (P-CH) and the access channel (A-CH). According to statistics shown in related data, P-CH's traffic

is far less than A-CH's. Therefore, when there are relatively few customers, we can consider merging A-CH and P-CH, and taking their average duration of active channels as the set-up channel's active duration. Its value is related to the length of signalling code formation, code speed and correcting pattern and other factors selected by the system. In accordance with the specific requirements of the medium-capacity mobile telephone system we designed, we temporarily set the set-up channel's average active duration as B = 0.9764 sec.



MSS - Mobile station
MBS - Base station
MCS - Mobile control station

Figure 1. Network Structure



S-CH - Speech channel
A-CH+P-CH - Set-up channel

Figure 2. Structure of System's Signalling Channel

From presumed conditions we know: The 3,000 customers make an average of 3 x 3,000 = 9,000 calls per day, i.e., λ = 9,000 times/24 hrs. The average interval between calls is $1/\lambda \approx 9.6$ sec. The duration of intervals between calls is distributed according to the exponential $A(t) = \lambda e^{-\lambda t}$. According to on-hold alignment alternation formula,[6] we know that the interval duration between no. i-1 time call and no. i time call τ_i is:

$$\tau_i = -\frac{1}{\lambda} \ln r_i \qquad (1)$$

In this formula, r_i is the on-hold alignment evenly distributed between the range (0,1).

III. Simulation Method

Our simulation work proceeded in two steps. First, we acquired through calculation the distribution of queuing duration of the set-up signalling channel; then we selected appropriate on-hold waiting duration according to the requirements of the system and obtained the blocking rate of the set-up channel and other indices.

1. Simulating the queuing situation of the set-up channel, calculating the distribution of the waiting duration of the set-up channel and possibility range of the average value of the waiting time.

The set-up channel's working condition can be simulated with a simple queuing and waiting model. It is known that the interval duration between two neighboring calls obeys $A(t) = \lambda e^{-\lambda t}$ exponential distribution. When calling occurs, if the set-up channel is busy, the calls begin queuing up and waiting. Using w_i to represent the waiting time of no. i time calling, then we have:

$$W_i=\begin{cases} W_{i-1}+B-\tau_i & W_i>0 \\ 0 & W_i\leqslant 0 \end{cases} \tag{2}$$

In this formula, B stands for the time taken by the set-up channel. If $w_i = 0$, it shows there was no waiting for no. i calling. When the average value of $W_i(i=0,1,2...N)$ the variance and the distribution of w_i in each call are determined through calculation, then the expected data is obtained.

The basic data we obtained includes each call's waiting duration W_i, the number of calls that need no waiting D, average waiting time T_1, $\left(T_1=\sum_{k=1}^{N} W_k/N\right)$, based on total number of calls, the average value E and the variance S^2 based on the number of waiting calls, the waiting time's probability distribution and the possibility range of different parameters, etc. In order to save internal storage capacity, we use the reoccurrence formula to calculate the waiting duration's average value and variance S^2.[5]

$$\overline{W}_i=\frac{i-1}{i}\overline{W}_{i-1}+\frac{1}{i}W_i \tag{3}$$

$$S_i^2=\frac{i-1}{i}S_{i-1}^2+\frac{i-1}{i^2}(W_i-\overline{W}_{i-1})^2 \tag{4}$$

The method for calculating the probability distribution of the waiting time is briefly summarized as follows.[6]

Divide time into k ranges, with each range's duration being H. Then calculate and see into which range each call's waiting duration W_i falls. If the result is a whole number that meets the following formula:

$$J=[W_i/H]<k-1 \tag{5}$$

it indicates no. i call's waiting duration falls into no. J range (A represents the A's whole number part), and therefore we have:

$$J\times H\leqslant W_i<(J+1)\times H \tag{6}$$

if

$$J=[W_i/H]\geqslant k-1 \tag{7}$$

it indicates the call's waiting time falls into the last range. Synthesizing (5) and (7), we then have:

$$J=\begin{cases} [W_i/H] & J<k-1 \\ k-1 & J\geqslant k-1 \end{cases} \tag{8}$$

and from formula (8) calculating the number of calling F(J) that falls into each range, we get the probability distribution of the waiting duration.

In order to calculate the possibility range of each parameter, the simulation process can be divided into several groups. Because each group's parameters follow the t-distribution,[7] we can estimate various parameters in each range and hypothetical examination. If calculating with a portable computer, the parameter estimate and hypothetical examination can be omitted, with these two parts of the calculation completed manually.

2. Simulating the blocking rate of the queuing system for a given waiting time.

In a medium-capacity mobile telephone system, in order to prevent call collisions, some systems do not use a full-waiting working pattern, but instead use the pattern in which a call waits on hold for a while to queue up. When the queuing duration passes the allowable value of the waiting time, call loss occurs in the system, which means the call will be dropped out of the queuing in the system. This working pattern is basically the same as the above-mentioned model, except that a program to judge whether call loss occurs is added.

In our simulated system, the time on-hold customers wait for the availability of the set-up channel is evenly distributed. W_1 represents allowable waiting duration of each call, and when $W_i > W_1$, call loss occurs, indicating no. i^{th} call will be blocked. Calculating the number of blockages will produce the blocking rate.

IV. Simulation Procedure

The simulation flow charts are shown in Figure 3 and Figure 4. In Figure 3, frames 4-9 plus frames 13 and 14 complete one-time group simulation statistical calculation, and print out the data of that group. Frames 10-12 process synthetically the data of each group and make regional estimates and finally print out entire statistical results.

According to the calculation results of the procedure in Figure 3, from the service rank demanded from the system, we can determine the allowable on-hold duration T_5. Then using the procedure shown in Figure 4, we can obtain the call loss rate corresponding to the maximum allowable on-hold waiting duration under a given amount of traffic. There is no major difference between Figure 4 and Figure 3, except that in Figure 4, some unnecessary parts of the statistical calculation are dropped and frames 15, 16 and 17 are added to produce on-hold waiting duration W_1, and compare it with the call's queuing time W, and then process the different branches according to the results of comparison. Finally, the blocking rate, the number of waiting calls (N-D) and other parameters are calculated and printed out.

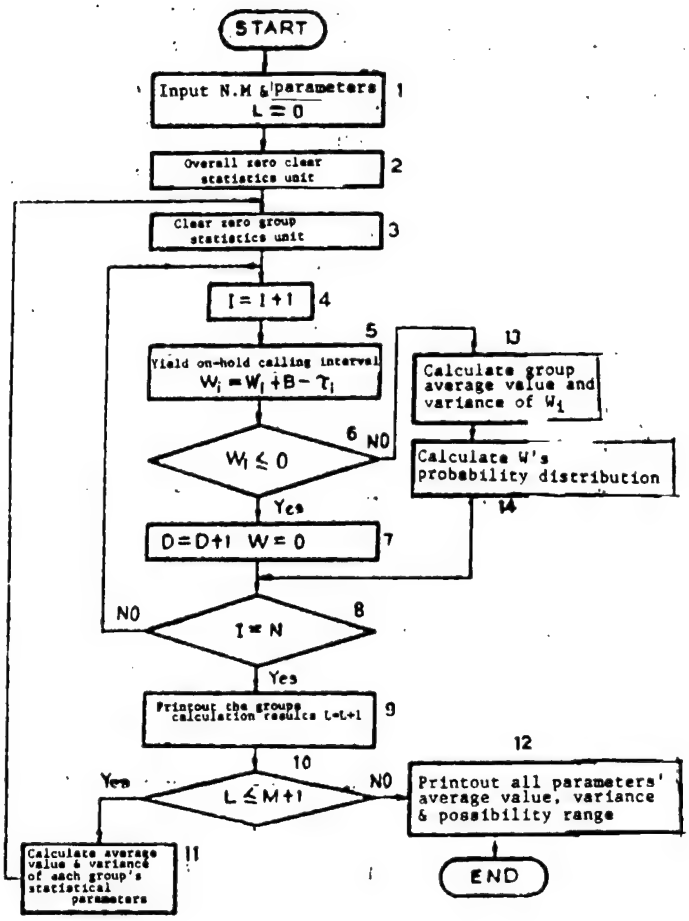


Figure 3. Simulation Procedure for Probability Distribution of Set-up Channel's Waiting Time

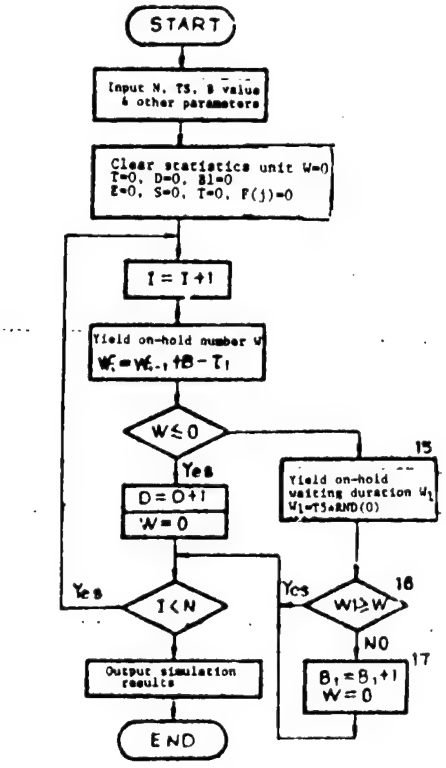


Figure 4. Simulation Procedure for Calculating Blocking Rate of Queuing System

V. Simulation Results and Analysis

According to the simulation flow charts given in Figure 3 and Figure 4, we conducted in succession simulation calculation on several types of microcomputers and pocket computers. The print-out includes the relationship between maximum on-hold waiting duration T_5 and set-up channel's blocking rate and other results as shown below in Table 1. In order to save computer time, the estimate of statistical parameters' range was done manually on a calculator.

A total of 10,000 sample points were chosen (equivalent to one day's calling volume). The 10,000 points were divided into 10 groups with 1,000 points in each group. A print-out was produced after completing the calculation of every 1,000 points, and then the possibility range of the 10 groups' parameters was manually calculated. From the following formula

$$P\{-t_{\alpha/2}(n-1)<\frac{(\bar{x}-\mu)}{S}\sqrt{n}<t_{\alpha/2}(n-1)\}=\beta=1-\alpha \tag{9}$$

we can obtain the possibility range of the average value of the parent body:

$$\mu\epsilon\left(\bar{x}\pm t_{\alpha/2}(n-1)\frac{S}{\sqrt{n}}\right) \tag{10}$$

in the above formula, $\bar{x}$-sample average value; μ-parent body's average value; n-number of sample groups; S-sample variance; β-possibility rate; we chose β = 95 percent.

Now the results of the total calculation are as follows:

Condition: set-up channel's duration B = 0.9764 second and when the possibility rate is 95 percent, we have:

Average value of set-up channel's queuing duration E: 0.53 < E < 0.55 (second).

The probability distribution of the queuing duration is shown in Table 2.

Conditions: $N=10000$, $B=0.9764$ second Table 1

Allowable maximum duration T_5 (sec)	Overall average waiting duration T_1 (ms)	Average waiting duration T_2 (ms)	Queuing number	Blocking number	Blocking rate (%)
0.5	49.4254374	1992.96118	248	737	7.37
1.0	50.4394192	977.508124	516	489	4.89
1.5	52.325218	784.486026	667	331	3.31
2.0	53.9488606	696.114331	775	257	2.57
2.5	52.2186274	661.833047	789	215	2.15
3.0	53.8484906	643.351142	837	185	1.85
3.5	55.9175032	619.241453	903	132	1.32
4.0	53.4183445	608.40939	878	140	1.4
4.5	53.6923636	588.732057	912	100	1
5.0	57.8283534	608.079426	951	111	1.11

Table 2

Waiting duration t (sec):	2	1.75	1.5	1.25	1.0	0.5	0.25	0
Probability $P\{T_w>t\}$:	0	4×10^{-4}	1×10^{-3}	3×10^{-3}	5×10^{-3}	0.055	0.08	0.10

From the calculation results we can see that waiting duration E value divides the probability density curve of the waiting duration into two parts, which are basically the same in area. In addition, we can also see that even though the call interval duration has an exponential distribution, call queuing time has close to a normal distribution. This point needs our attention when designing a system. Figure 5 is a bar graph showing the distribution of the waiting duration for queuing.

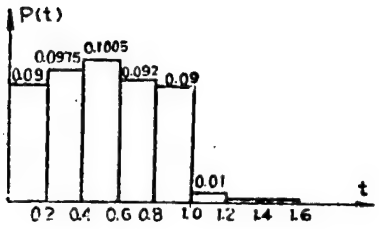


Figure 5. Bar Graph of Queuing When Calling

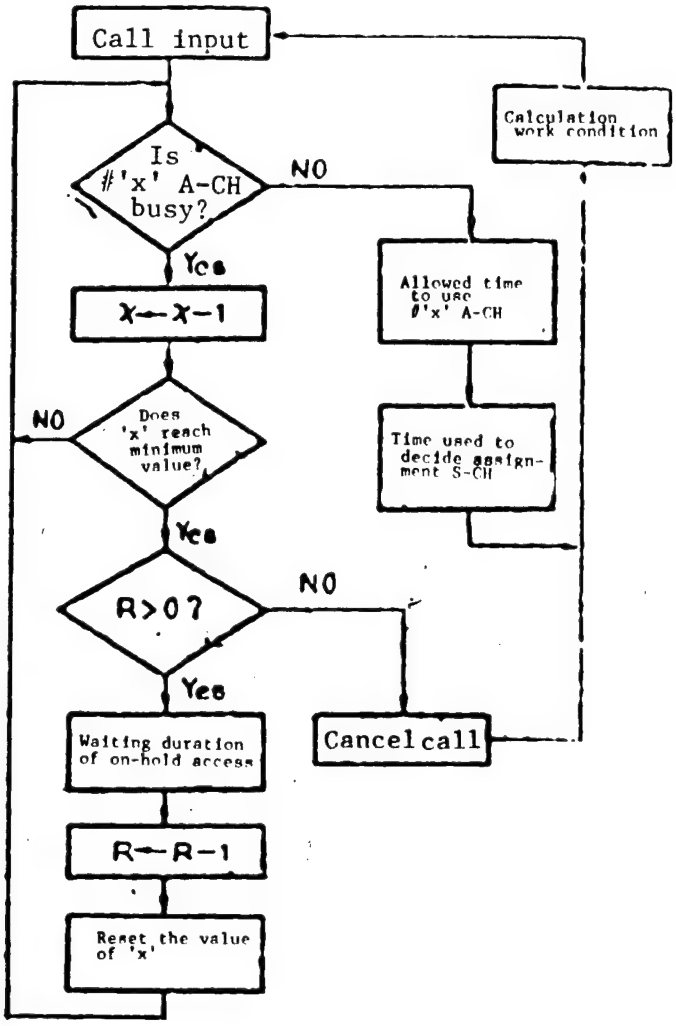


Figure 6. Simulation Flow Chart of Multi-set-up Channel

VI. Conclusions

This paper gives an effective method for using simulation methods to design signalling channel capacity for a queuing system. Using this method to design the set-up channel of mobile telephone network, one can avoid complicated theoretical calculation. With flexible design parameters, this method is straightforward and easily understood and thus is convenient for designers. Especially when adopting on-hold waiting working pattern, theoretical calculation is very difficult, but this simulation method can turn out satisfactory results. From analyzing the simulation results, we know: The probability distribution condition of waiting duration is close to the sum of the average distribution of certain ranges and the normal cut off distribution, which, under general conditions, can be approximately considered as a normal distribution in the (0, 2*E) range.

Although this paper only gives the simulation results of a set-up signalling channel, its fundamental principle can be used to simulate multiple set-up channels' traffic volume after being slightly extended. Furthermore, queuing up and waiting can be repeated many times, which means that if all set-up channels are busy, when no. i call occurs, the call then automatically queues up to wait on hold for a while to see if any set-up channel is available; if still no set-up channel is available, the call will again repeat the above-mentioned procedure; and only when the set-up channel is still unavailable after a stipulated number of times waiting on hold could that call be considered as a call-loss and dropped. Figure 6 is a flow chart to show the procedure of a kind of multi-set-up channel, multi-repeated waiting for calls. It is for reference by the comrades who are interested in this subject.[8]

Appendix 1: Procedure for calculating the probability distribution of the waiting duration of queuing and waiting system (omitted).

Appendix 2: Procedure for calculating the blocking rate of the waiting system (omitted).

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12974
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SHANGHAI BELL TELEPHONE JOINT VENTURE DESCRIBED

Beijing GUOJI MAOYI [INTERTRADE] in Chinese No 2, 27 Feb 85 pp 5-7

[Article: "A Successful Example of Importing State-of-the-Art World Technology; Interview with General Manager Long Tian Si of the Shanghai Bell Telephone Equipment Manufacturing Co, Ltd, a Chinese-Belgian Joint Venture"]

[Text] I was introduced to the Shanghai Bell Telephone Equipment Manufacturing Co, Ltd, a joint venture between China and Belgium still in its preparatory stage, when I was attending an international conference in Shanghai recently. I was informed that its creation signals that China has the capability to make the world's most sophisticated telephone exchange equipment, equipment so advanced that it can meet international telecommunication needs in the year 2000. So I went to interview Mr. Long Tian Si [phonetic 7893 3944 2448], general manager and Belgian representative of the Shanghai Bell Telephone Equipment Manufacturing Co, Ltd, the Chinese-Belgian joint venture introducing this state-of-the-art technology to China.

Before I met with the Belgian representative, I was informed by Mr. Li Dalai [2621 1129 0171], the Chinese representative and deputy general manager of the company, that Mr. Long Tian Si is a most dedicated industrialist. Because of his decision to take up the general managership in China, he sold his two cars and a house in Antwerp, Belgium, and sent for his wife and children to join him here. Moreover, he sends his two children to a Chinese school. This preamble only made me more eager to interview the general manager.

Speaking in French with a Flemish accent, Mr. Long Tian Si began a spirited conversation with me. He said that Belgium is a very small country but Bell Telephone Company has the world's most advanced telecommunications technology, which it is very honored to be able to supply to China, one of the world's major powers. Through technology transfer, moreover, China will be capable of producing on its own high-quality programmed telephone exchange equipment and training highly skilled engineering and technical staff within 3 years. Mr. Long Tian Si said he was most pleased to be here as representative of this significant project to cooperate with Chinese friends.

Mr. Long Tian Si then briefed me about the joint venture. It has three investors, namely, China Post and Telecommunications Industry General Company, which put up 60 percent of the capital; Bell Telephone Company of Belgium, 30

percent; and the Development and Cooperation Fund of the government of the Kingdom of Belgium, 10 percent. The contract for the joint venture was signed on 31 July 1983 and will remain effective for 15 years. Its board of directors met for the first time in December 1983 and work on the production line and various activities began in January 1984. The project primarily involves the construction of a production line which can produce the S1240 digital telephone exchange system with 300,000 lines, including an assembly line, a spare parts production line, a multilayer printed circuit board production line, a special large-scale integrated circuit production line and a software production center. The contract stipulates that the first 2 years are preparatory, during which the company will conduct market surveys, put up a plant and accept orders, and that the assembly line of the project will go into operation in 1986. But in view of the urgent demands of communications development in China today, the company will begin production for domestic consumers beginning the fourth quarter of 1985. The spare parts production line will go into operation in 1987, followed by the integrated circuit production lines in 1988. The whole project is expected to be completed by 1989. At present the company has already received more orders than it can handle in 1985. In other words, it has made a very good start.

Given that this is a joint venture involving the latest technology and my own interest in technology transfer, I presently steered the conversation in that direction. The general manager told me the contract provides for continuous technology transfer; throughout the period when the contract remains in force, Belgium will supply China with achievements and experiences in telecommunications technology to ensure that its products are the most advanced. There are three aspects to technology transfer: first, the transfer of the necessary technical data; second, the Bell Telephone Co will train Chinese engineering and technical staff in Belgium. At present, there are 100 such trainees in Belgium and more are expected to go there next year. Third, Belgian experts will be coming to China to provide on-the-job production guidance. Beginning January 1985, Belgium will send 30 experts to China in the next 2 years to supervise production.

Referring to the market for products of joint ventures, Mr. Long Tian Si said, "Undoubtedly we have quite a few competitors, which will create some problems for us in the market." But he remains optimistic and considers market prospects favorable because of its size. According to data given them by the Ministry of Posts and Telecommunications, China needs 10 million lines before 1990 and 33 million lines by the year 2000. He finds a market on such a scale very encouraging.

Asked how joint ventures balance their foreign exchange, he said, "People can pay for our products with either renminbi or foreign exchange. Joint ventures balance their foreign exchange through the Bank of China."

Asked whether the company has run into any difficulty in its preparatory stage, Mr. Long Tian Si said that while difficulties do exist, he is gratified that the Ministry of Posts and Telecommunications has been tremendously supportive and that the Shanghai 1240 Bureau of Engineering and Construction has also given them concrete assistance, to both of which he expressed his gratitude. Finally he told me that he and his colleagues would like to

contribute to the economic development of Shanghai, the venue of the joint venture as well as China's largest city, thereby contributing to China's future.

The interview was over. The primary economic result of this S1240 project, which strikes me as one oriented towards the importation of technology, will be to supply the nation's telecommunications network with equipment at lower than international prices. During the 15 years when the contract remains effective, it will help China to economize in its investment in the infrastructural development of its telecommunications system and will also provide us with tax advantages. Localities across the nation reportedly will spend about $177 million in the next few years to finance the importation of digital telephone exchange equipment, whereas it took only 160 million yuan to build the Shanghai Bell Telephone Co with its annual output of 300,000-line telephone exchange equipment. We can thus see that this joint venture is a success story in the introduction of advanced technology.

12581
CSO: 4006/524

PEOPLE'S REPUBLIC OF CHINA

ASIA-PACIFIC BROADCASTING UNION MEETING OPENS

OW151055 Beijing XINHUA in English 1632 GMT 15 May 85

[Text] Beijing, 15 May (XINHUA)--The 38th council meeting of the Asia-Pacific Broadcasting Union (ABU), the first held in China since its founding in 1964, opened here this morning. The meeting, scheduled to run from 15 to 19 May, is attended by delegates from 13 Asia-Pacific broadcasting and television organizations and the ABU Secretariat. Matters relating to the expansion and improvement of Asia Vision (a TV news exchange) and TV rights to important international sport events will be discussed. Dato' Abdullah Mohamad, president of the ABU, presided at the opening ceremony.

Addressing the meeting, Wu Lengxi, Chinese minister of radio and television, noted that the ABU had made several major achievements since its founding. It had inaugurated a regional TV news exchange network in January 1984, an item long on its agenda. This was a significant contribution to furthering mutual understanding among peoples in the region and initiated a new order in news work, he said. Wu said radio and television departments of the People's Republic of China would in future take a more active part in the ABU activities. "Together with our colleagues, we will continue to work for the development of the ABU and for friendly cooperation among broadcasters in the Asia-Pacific region," he added.

The Chinese radio and television organization has served as an ABU council member since 1975. The ABU has a membership of 35, representing 30 countries in the region. It aims at promoting links and cooperation in broadcasting and television and exchanging new technology and experience among the member states. Wu Lengxi will give a reception at the Great Hall of the People for the participants this evening.

CSO: 5500/4149

PEOPLE'S REPUBLIC OF CHINA

PRC CITIES TESTING OPTICAL FIBERS IN TELEPHONE, TV SYSTEM CONNECTIONS

HK230633 Beijing CHINA DAILY in English 23 May 85 p 5

[Article by staff reporter]

[Text] Optical fibres are currently under trial to connect telephone and television transmission systems in Beijing, Shanghai, Tianjin, Wuhan and Guilin, according to scientists at last week's Sino-Japanese joint meeting on fibre optics.

"In the past 2 years, extensive research has been carried out to improve glass fibre quality and design and develop fibre optic communications systems," said Wang Duanxiang, professor at Shanghai Jiaotong University.

The role of lasers in fibre optic communication lines is also being studied.

But Wang noted that unforeseen problems have cropped up when experimental results are put into practice. In Wuhan, for instance, they have to deal with rats destroying the lines.

"This particular problem has been solved, but we still have more. Our factories need further technical know-how," he said.

He also cautioned against the import of too many fibre optic assembly lines. "We need no more than 50,000 kilometres a year for the next 3 or 4 years," he said, "and excessive imports will result in waste."

Speaking of the joint meeting, scientists said it offered an opportunity for Chinese experts to learn about new development and new focus in the study of optical fibre, and to broaden contacts with the outside world.

CSO: 5500/4149

PEOPLE'S REPUBLIC OF CHINA

NEW RADIO, TV MINISTER CONSIDERS SATELLITE

OW10057 Beijing International Service in Mandarin 0900 GMT 9 Jul 85

[Text] Dear listeners, our country's Ministry of Radio and Television has a new young minister. His name is Ai Zhisheng. After he took office on 18 June, he was interviewed by reporters.

Ai Zhisheng is 56 years old. He graduated from Qinghua University in 1950. He said that he was very glad to accept his new work because he has always been an enthusiastic radio listener and TV viewer. However, talking about his new tasks, he modestly said he was a new soldier on the broadcasting front. He said: I will first spend time studying radio and TV work, and discovering problems and seeking methods to solve them. During this period, I hope to gradually grasp the overall work of the ministry.

The Ministry of Radio and Television is under State Council jurisdiction. It administers the Central People's Radio Broadcasting Station, the Central Television Station and the Beijing radio station which broadcasts programs to the whole world. Currently China has 167 radio broadcasting stations and 103 TV stations with hundreds of millions of listeners and more than 100 million viewers. Radio and TV influence increasingly the life of the Chinese people.

However, Minister Ai Zhisheng held that it was necessary to strive to improve the quality of programs. He said: Both quantity and quality of radio and TV broadcasts still cannot meet the needs of the people. I will first concentrate efforts to raise quality. Our radio and TV must not carry unhealthy programs, but we must also not stay with the same old things daily. We should improve our service for listeners and viewers. We should stive to understand them and study their needs.

On the important role of the Beijing radio station in helping people of various countries understand China and enhancing friendship with foreign countries, Ai Zhisheng said: Beijing radio received some 80,000 letters from overseas listeners last year, so it is a very important medium of information. It explains China's policy to listeners throughout the world. Its contents include not only Chinese culture and life but also political, diplomatic, and economic affairs. The goal of our global broadcast is to win friends, help our listeners better understand China, enhance friendship between the Chinese people and people of other countries, and promote world peace.

Ai Zhisheng said: The ministry is considering a satellite for radio and TV broadcast to expand program coverage at home. At present the China Color Television Center is being built at a faster pace. After its completion, we will be able to add several broadcast channels to the whole country.

On international broadcasting, he said: The biggest problem is that listeners in a number of countries cannot receive the Beijing radio station broadcasts or can receive only a very weak signal. We will take some measures to solve the problem.

The masses bitterly hate and despise people producing or selling fake medicines. It is necessary to enable the masses to play their maximum supervisory role. The pharmaceutical administrative and testing organs all over the country can make the telephone numbers and addresses of the law enforcing organs known to the public. In this way, they can conveniently listen to the people's opinions .

The enforcement of the "pharmaceutical administration law" is a glorious and yet formidable task which requires us to combat crimes, erroneous ideas, forces of habit, and the practice of paying no attention to the law and not doing things in accordance with it. Our public health administrative departments should overcome their dread of difficulties and, under the leadership of the governments and the standing committees of the people's congresses at all levels, duly contribute to guarding the sanctity of the legal system and to protecting the people's interests.

CSO: 5500/4148

PEOPLE'S REPUBLIC OF CHINA

BRIEFS

XIAMEN TELEPHONE EXCHANGE--Xiamen, 9 May (XINHUA)--A 10,000-line program-controlled telephone exchange system imported from Japan passed checks Wednesday, making Xiamen, Fujian Province, the first such Chinese city. The system began trial operations in January. It will facilitate the social and economic development of the city, a special economic zone open to foreign investment and trade, said local officials. Xiamen and some other cities in Fujian Province have direct dial service to the United States and Japan, they said. Nineteen cities and counties in the province have automatic and semi-automatic dial service to Hong Kong. [Text] [Beijing XINHUA in English 0804 GMT 9 May 85]

NEW TELECOMMUNICATIONS SYSTEM FOR BANK--Beijing, 13 May (XINHUA)--The Bank of China began to use a new telecommunications system today, linking itself up with over 1,200 foreign banks. The system, provided by the Society for Worldwide Interbank Financial Telecommunication (SWIFT), a non-commercial international cooperative banking organization, will facilitate banking transactions including remittance, money transfer and confirmation concerning foreign exchange dealings and credit card. SWIFT was founded in 1973 to develop a telecommunications system for banks worldwide. It now has some 1,200 member banks in 54 countries and regions. The Bank of China, which specializes in the country's foreign exchange dealings, was admitted to SWIFT in February 1983. The following year, its overseas branches in London, Hong Kong and Singapore began to use the SWIFT system; the New York branch will hook up to it in the near future. "We also plan to use the system to connect our head office with the major home branches," an official at the Bank of China said. Robert Moore, chairman of SWIFT and his party attended today's ceremony to initiate the system. [Text] [Beijing XINHUA in English 0826 GMT 13 May 85]

OFFICIAL SPEAKS ON TELECOMMUNICATIONS--Arusha, 28 May (XINHUA)--China will cooperate with all the member countries of the International Telecommunication Union (ITU) and contribute to the world telecommunication development, particularly in the developing countries. Liu Qingyou, head of the Chinese delegation and ambassador to Tanzania, said here today at a world telecommunication development conference that China will promote economic and technical cooperations and exchanges with all friendly countries and the ITU on the basis of self-reliance, mutual benefit and mutual credibility.

Mr Liu also said that the report "The Mission Link" drafted by ITU's independent Commission on Worldwide Telecommunications Development Targets would play a positive role in promoting telecommunications development, particularly in the developing countries. [Text] [Beijing XINHUA in English 1548 GMT 28 May 85]

LI PENG MEETS USSR DELEGATION--Beijing, 11 Jun (XINHUA)--Chinese Vice-Premier Li Peng today expressed a hope for improved exchanges and cooperation between China and the Soviet Union in post and telecommunications. At a meeting with a Soviet communications delegation led by Vice-Minister of Communications A.L. Badalov here this afternoon, Li Peng briefed them on China's plan and principles for communications development. Badalov, who visited China over 20 years ago, said he was very pleased to return and discuss with Chinese colleagues international communications issues and the possibilities for bilateral cooperation in communications technology. [Text] [Beijing XINHUA in English 1236 GMT 11 Jun 85]

GUANGZHOU TELEPHONE EXCHANGE--Guangzhou, 26 Jun (XINHUA)--An imported 26,000-line program-controlled telephone exchange system started partial operation today in Guangzhou, one of the 14 coastal cities open to foreign investment. A program-controlled long-distance telephone exchange system also began operation. The city now has direct dial service to Beijing, Chongqing, Chengdu, Guiyang, Nanning, Foshan, Shenzhen, Zhuhai, Jiangmen, Zhongshan, Xinhui, Hong Kong and Macao. The system increases the city's automatic telephone service by two thirds. The two systems were imported from Ericsson Telecommunications Ltd in Sweden. [Text] [Beijing XINHUA in English 1651 GMT 26 Jun 85]

SICHUAN SATELLITE GROUND STATIONS--From 17-18 June the Provincial Radio and Television Department held a conference in Chengdu on pilot projects for satellite ground stations for television. The conference conveyed the spirit of the national conference on pilot projects for satellite ground stations for television. After discussions, the provincial authorities decided to distribute the three sets of equipment for satellite ground stations for television to Aba, Ganzi and Liangshan Autonomous Prefectures. This equipment had been given to the province by the State Council. The ground stations will be set up in the capitals of the three autonomous prefectures. Dukou City has decided to raise funds by itself to take part in the pilot project for satellite ground stations for television. The conference studied various measures for fulfilling the pilot project task. The conference believed the installation in a planned and systematic manner of a set of equipment in the province for broad masses to directly and independently receive the programs of the central television station via satellite is of great significance in promoting the building of the two civilizations in our province. [Text] [Chengdu Sichuan Provincial Service in Mandarin 0030 GMT 20 Jun 85]

SHANGHAI TELEPHONE LINES--Over 8,000 telephone lines were added in Shanghai during the first 4 months of this year. About 5,000 households have applied for installation of private telephones each month since the beginning of this year. The municipal telephone bureau has taken emergency measures to cope with increasing demands. [Excerpts] [Shanghai City Service in Mandarin 0100 GMT 5 May 85 OW]

GUANGZHOU DIGITAL TELEPHONE EXCHANGE--Guangzhou, 21 Jun (ZHONGGUO XINWENSHE)--The regulation and trial operation of a digital telephone exchange with "26,000 circuits," imported from Sweden by the Guangzhou telecommunications bureau, has been completed; and it has been decided that the exchange is to be put into operation on 22 June. This telephone exchange has the largest capacity of its kind in China. When the digital telephone exchange is in operation in the city, the capacity for inner-city telephone communication in Guangzhou will be doubled. In the first stage, all telephones in the district where telephone numbers begin with a three will be connected to the digital telephone exchange, and its use will be extended to other districts step by step. The difficulty of making a telephone call in Guangzhou will be eased with the operation of the inner-city digital telephone exchange. [Text] [Beijing ZHONGGUO XINWEN SHE in Chinese 1358 GMT 21 Jun 85]

CSO: 5500/4148

NORTHERN TELECOM INTRODUCES NEW PRODUCTS FOR OFFICE AUTOMATION

Munich COMPUTERWOCHE in German 22 March 85 p 30

[Article: "Northern Telecom Makes Play for Successful Strategy"]

[Text] Northern Telecom recently announced a series of new products just in time for the "official" 109th birthday of the telephone. With the "Meridian" series, the Canadians want to make a successful offering first in the North American data processing and telecommunications market.

The availability of the new products for Europe will be announced before the end of this year, according to a Northern Telecom spokesman. Industry observers in America view the success of this system as an indicator for the future development of Nortel.

At the manufacturer's home office it is told that "Meridian" was conceived as an extension to the SL family of PBX equipment and offers the user the capability of accessing improved or new information services. The recently announced Meridian SL-1 and Meridian SL-100 are not intended to displace the presently used SL-1 and SL-100 systems but rather to expand them. The SL products already installed can also be expanded to provide the user with all the capabilities of "Meridian SL" equipment.

Insertion of Verbal Messages Into Text

The Meridian systems use "Lanstar" as a local area network. A special advantage of this concept is, according to statements of a Nortel spokesperson, that data and speech can be transmitted via conventional telephone lines at slow, medium or fast speeds. "Lanstar" has a starshaped configuration and meets telephone industry standards, says the manufacturer. The transmission speed is given as 2.56 Mbit per second.

The Canadian manufacturer wants to make the communication services available through "Meridian" especially attractive to its customers. Thus, in addition to the usual process of generating, transmitting or receiving a written or spoken message, there is also the possibility of including a recorded voice message in a document or text.

The electronic dictionary has enough capacity to hold all of the telephone numbers required in a factory with enough left over for 1,000 entries per person. This spectrum of services is augmented by applications software from various independent vendors which includes text processing, scheduling and data bank management. Between 30 and 30,000 users can work on a single system.

Also announced was the DV-1 data/speech system which is modular and has a bus speed of 40 Mbit per second, according to company information. The distributor transmits 2.56 Mbit per second. The DV-1 can be expanded and tailored to customer specifications in the area of integrated speech and data communication.

In addition, the announcement includes an expansion of the existing scheduling package: The M4020 system is specially desinged to handle large quantities of data and has an integrated telephone function. Window technology and nonsmearing displays are additional characterists of the terminal.

In the area of telephone equipment, there will be two new products in the future. The digital telephone M2000 is suitable for data and speech transmission up to 19.2 kbit per second. The M3000 has, instead of a keyboard, a liquid-crystal screen which reacts to touch. The display can also serve as a menu to guide the user through all of Meridian's integrated functions.

9160
CSO: 5500/2671

STUDY FINDS NO ISLAND-WIDE TELECOMMUNICATIONS SYSTEM NEEDED

Hamilton THE ROYAL GAZETTE in English 28 Jun 85 p 1

[Text]

A Government-backed plan to install a multi-million dollar telecommunications system on the Island has been rejected as unnecessary and unfeasible by a major US consultancy firm.

The New York-based Communications Studies and Planning International (CSP) recently completed a nine month, $100,000 study of Bermuda's telecommunications needs and concluded Bermuda does not need an Island-wide "broadband" cablecommunications network capable of carrying video, voice and data transmissions.

It was delivered to the local company Infonet on Wednesday.

Infonet, a consortium of 20 firms interested in the management or use of advanced telecommunications, financed the feasibility study.

The businesses involved with the consortium include Cable and Wireless, the Bermuda Electric Light Company, the Bermuda Telephone Company, the three banks and all branches of the media.

"The main thrust of the report was to look at data systems for the Island and decide whether a broadband system would help attract more international company business to the Island," an informed source told *The Royal Gazette*.

"Infonet was basically the idea of Dr. John Stubbs when he was Telecommunications Minister.

"He wanted Bermuda to be the hub of international activity and to become a global telecommunications village. It would go hand in glove with the international company business."

Infonet was created in November 1983 following a series of meetings between Dr. Stubbs and various companies interested in telecommunications.

Broad agreement on the need for an in-depth probe of communications emerged following a Government-sponsored seminar in September 1983, which concluded that Bermuda could become a key centre in the lucrative international telecommunications market.

Last year Infonet contracted CSP to study the Island's needs for a widebranch cable system.

"In other words, within the spectrum of such a system would lie a multitude of services," said the source. "A single cable would act like a superhighway and in each of its lanes there would be specific types of communication channels such as video, audio, commercial, computer, entertainment and alarm systems.

"There is no such system anywhere else in the world, though there are experimental systems," he said. "The question CSP had to answer was whether this system could be structured for Bermuda."

The CSP report concluded that Telco and Cable and Wireless were capable of handling the Island's international telecommunications needs.

"It did not recommend Infonet build an Island-wide cable system or fibre optic system," said the source. "It said Telco and Cable and Wireless could take care of all the international data business."

In the latest Telco annual report, the company revealed plans to provide high speed data transmission over its existing network.

"The ability to provide both data and voice transmissions over one pair of wires, or ISDN (Intergrated Services Data Network), as it is known, is a service which is in various stages of experimentation throughout the world," said the report. "We expect to be in a position to offer such a service Island-wide to our customers by the end of 1985."

Lawyer Mr. Frank Mutch, the secretary for Infonet, would not answer press inquiries about the CPS report yesterday.

But it is understood that Infonet plans to study the report's findings for several months before deciding how to act on them.

CSO: 5540/045

OVERSEAS DATABASE SERVICE TO BE OFFERED TO COMPUTER USERS

Hamilton THE ROYAL GAZETTE in English 18 Jun 85 p 26

[Text] Cable & Wireless is responding to claims it overcharges for international data transmissions by expanding the service it offers.

New hardware and software being brought on-line later this year will, among other things, give computer users outside Bermuda access to databases on the Island for the first time.

C & W has been hammered by a number of computer users, including Professional Information Systems president Mr. Tony Johnson.

He accused Cable & Wireless of overcharging for data transmission services, saying the only alternative view was that the company itself was being ripped off by US carriers.

The high cost of linking Bermuda computers to foreign databases was a barrier to Government's plan to establish the Island as an offshore technology centre, he said.

C & W general manager Mr. John Davenport told *Business* in March Bermuda-based telecommunications users could not expect to enjoy the cost advantages of living in the US, for instance.

Bermudian computer users can access US databases by either making a long-distance phone call or using the International Database Access Service. IDAS, offered by C & W, is accessed by a local phone call.

Mr. Davenport said yesterday new IDAS hardware being installed would allow users outside Bermuda to access databases on the Island from the end of August.

"We're going ahead with that enhancement. A second enhancement later would enable us to go on to bypass the record carriers we currently work with," he said.

"We've been in contact with the States to see how charges can be reduced but it's all taking a bit longer than we expected."

CSO: 5540/045

ATLANTIC FIBRE OPTIC CABLE MAY TRANSIT BERMUDA

Hamilton THE ROYAL GAZETTE in English 28 Jun 85 p 32

[Text]

A new transatlantic fibre optic telecommunications cable may be routed through Bermuda.

The cable is one of two in a £480 million project to lay the first privately-owned fibre optic cables across the Atlantic between Britain and the USA.

The system, called PTAT, is jointly owned by Cable & Wireless and Tel-Optik, a US company.

The northern cable is due to be in service by June 1989. The southern cable will be needed to meet demand in the 1990s.

Each cable is designed to carry three fibre pairs, each operating at 280 million bits per second — the equivalent of 4,000 telephone calls per fibre pair.

The cables will be landed in New Jersey and connected to a terminal in New York City. The UK ends will have a terminal in London. The cables will be operated in the UK by C&W offshoot Mercury Communications.

C&W's Bermuda general manager, Mr. John Davenport, said yesterday the project was too young for any specific routes to have been decided.

"But routing through Bermuda is certainly a possibility that's being discussed," he said.

A decision on the routes would probably be made in the next year, Mr. Davenport said.

The likelihood was of Bermuda simply being a location on the route if the cable was laid via the Island. Most of the traffic would be transatlantic but there would also be communications to and from Bermuda in both directions.

A second possibility was of Bermuda acting as a route switching station or exchange, an idea heavily backed in general terms by former Technology Minister the Hon. John Stubbs.

Mr. Davenport said the amount of traffic being generated from stations south of Bermuda would dictate how practical such an arrangement would be.

"I have to say, at this moment, though, there are no plans to make Bermuda a switching station," he said.

Mercury, set up to compete with the partly-state-owned British Telecom, already has an optic fibre and microwave communications network covering Britain.

The approval from the Federal Communications Commission comes after a similar go-ahead from the British government.

Cable & Wireless has also bought capacity on the Washington to Chicago Lightnet fibre optic network. The multi-million dollar agreement includes options for C&W to buy extra routes on the 5,000-mile network, which serves large volume voice, data and video users.

CSO: 5540/045

BERMUDA

BRIEFS

SATELLITE DISH RULING--Government yesterday prepared to crack down on illegal satellite dish owners in the wake of a court decision ordering the demolition of a dish put up without planning permission. Planning Director Mr. Erwin Adderley said last night that his Department would take "the necessary steps" to make illegal satellite dishes conform with regulations. He estimated there were about 500 such dishes on the Island, all of which would become subject to "enforcement actions" aimed at either their removal or official approval. Last night Mr. Adderly said: "The courts have determined, as we have said all along, that erection of satellite dishes constitutes development and we will continue to work to enforce all of the dishes that have been erected without planning permission." Mr. Adderley said the Department would issue enforcement notices requiring official approval for the satellite dishes. And he warned that if the dishes did not comply with departmental requirements they would have to be taken down. [Excerpts] [Hamilton THE ROYAL GAZETTE in English 3 Jul 85 p 1]

CSO: 5540/045

FRG MINISTER URGES 'PROTECTIVE' POLICY ON INFORMATICS END

LD270909 Hamburg DPA in German 2239 GMT 26 Jul 85

[Excerpts] Sao Paulo, 26 Jul (DPA) -- Federal Minister for Economic Cooperation Juergen Warnke has called on Brazil to change its protective policy on the information technology industry. At the end of his 4-day visit to Brazil today, Warnke described the protective measures to the press in Sao Paulo as a mistaken legislative decision. He hoped Brazil would amend it. The law on information technology forbids foreign firms from producing microelectronics products in Brazil.

Warnke said the law on information technology hampered new German investment in Brazil. In order to bring foreign investment to Brazil the country should also make it clear that it intends to pay its debts. Warnke suggested to the Brazilians that not just one, but two, nuclear power stations should be set up in cooperation with German industry. Until now it was only certain that the Brazilian Government would complete one German nuclear power station (Angra Two). The German-Brazilian nuclear treaty concluded in 1975 originally planned for the construction of eight German nuclear power stations. Due to its economic and financial crisis however, Brazil has no more money to carry out these plans. Warnke flew from Sao Paulo to Peru for a several-day visit.

CSO: 5500/2092

INDO-U.S. SATELLITE LINK PLANNED FOR BANGALORE

Bombay THE TIMES OF INDIA in English 24 Jun 85 p 9

[Text] BANGALORE, June 23--THE project of the U.S. giant computer components manufacturer, Texas Instruments, soon to come up on the city's outskirts, has secured permission from the Central government to establish a direct satellite communication link with the company's headquarters at Houston in Texas.

The captive or dedicated earth station, which has no parallel in the Indian private sector, would provide the Bangalore unit with easy and direct access to TI's latest generation of computers at the U.S. headquarters for the design and development of sophisticated software here, according to a highly placed source.

Personnel at the city unit will feed data via the satellite link to the company's headquarters in order to develop software which will eventually be exported to select consumers in Western Europe and the U.S.

Obstacle Overcome

It is learnt that the link would overcome what has been a major obstacle so far: the U.S. government's reluctant to permit export to India of these highly sophisticated computers in view of the security implications.

By this unique communication channel, TI would be able to make effective use of its high-technology infrastructure in the U.S. The benefit to India would be in terms of the massive foreign exchange earnings that the project will generate.

A similar direct satellite link had earlier been sought by two leading Indian companies some time last year, in view of the benefits of rapid communication and the distinct advantage accuring from the difference in time between the two countries.

The Centre had turned down the proposal at the time. The government had, earlier this year been hesitant in the case of TI, too, but later relented in view of the change in official thinking and the renewed bid to provide a vigorous thrust to electronic exports.

The project, with 100 per cent equity participation by TI, aimed at developing software exclusively for export, was the outsome of a meeting that the chairman of the Electronics Corporation of Tamil Nadu (ELCOT), Mr. T. S. Vijayaraghavan, had with American and Indian businessmen in Houston in 1983.

More Ventures

The TI project has turned out to be a harbinger of more such ventures in India. Coming close on the heels of the TI proposal, it is learnt that International Business Machines will soon return to India after a long absence with a plan to develop software for export.

IBM controls a staggering 75 per cent of the world's computer software exports. It has still not decided on the location, but has sought an exclusive export processing zone.

Three more units are believed to have secured approval of the electronics commission under the scheme. All these proposals have come from non-resident Indian technocrats based in the U.S. The government has decided to grant permission to these units, too, for setting up captive earth stations that would put them in direct contact with their U.S.-based parent firms. These projects are likely to be set up in Pune, the Nilgiris and Gurgaon (Haryana).

The five units together would account for software exports of about Rs. 25 crores in the next four years.

Ten more foreign companies have sought similar licences to start operations and these are likely to be cleared soon.

CSO: 5550/0123

SATELLITE CONTROL CENTER PLANNED FOR BANGALORE

Madras THE HINDU in English 21 Jun 85 p 6

[Text] BANGALORE, June 20.

The Indian Space Research Organisation (ISRO), Telemetry, Tracking and Command Network (ISTRAC) is establishing a satellite control centre (SCC) near Bangalore for the Indian Remote Sensing Satellite (IRS) to be launched in 1986.

The IRS ground segment for space craft control, data reception and processing of imagery have progressed considerably, according to ISRO.

Data from the IRS would be received at the National Remote Sensing Agency's (NRSA) facilities being set up at the Shadnagar (Maharashtra) complex.

Modification of the Landsat-3 terminal and augmentation of Landsat 4/5 terminals for IRS data reception are under way.

The IRS-1A, first of the Indian remote sensing satellites, was scheduled to be launched into a 900 km polar sun-synchronous orbit in 1986.

According to ISRO sources, the Shadnagar earth station was receiving imagery for resources surveys from Landsat, the American satellite orbiting at altitudes around 900 km in polar orbit, for remote sensing of earth resources. This had helped in the mapping of forest and non-forest areas of all the States in India.

The NRSA study of pre and post monsoon conditions of Punjab river basins for hydrological characteristics and survey of Madras and its environs for ground water potential and land use were completed using satellite imagery.

Projects for mapping of salinity, alkalinity and river water quality and environmental studies of the Nilgiris bio-sphere including Silent Valley and its environs were completed using aerial and satellite data, the ISRO said.

Aerial and remote sensing projects that were completed included town planning survey of over seven towns in Andhra Pradesh, thermal scanner survey in Bastar district of Madhya Pradesh for mineral exploration, monitoring of changes due to natural and developmental activities in Sriharikota, photographic survey over Kerala and survey for road bridge near Tejpur.

The consultancy projects completed using aerial photo-interpretation include a geological survey in Uttar Pradesh, groundwater surveys near Dehra Dun and a semi-detailed soil survey of Maheshwar project area in Madhya Pradesh.

The ISRO said five regional remote sensing service centres were being set up for processing data. The Dehra Dun centre, funded by the Department of Science is operational. Work on the other centres at Nagpur, Kharagpur, Bangalore and Jodhpur was under way.

CSO: 5550/0121

STATE INFORMATION MINISTERS' MEET OPENS IN DELHI

Gadgil, Other Speeches

Bombay THE TIMES OF INDIA in English 20 Jun 85 p 9

[Text] NEW DELHI, June 19 (PTI)--THE Union information and broadcasting minister, Mr. V. N. Gadgil, today said a statement on the proposed national communication policy was under preparation and it would be circulated to all concerned after the draft is ready.

Inaugurating the 18th conference of state information ministers here, he said he proposed to hold discussion with all concerned agencies and various organisations of journalists and others and sought the co-operation of Central and state government agencies in this regard.

He said the basic idea behind the communication policy, a challenging task, was to see that the mass media played a "constructive role in strengthening our republic and shaping our society."

Besides information ministers, the meeting was attended among others by the Kerala chief minister, Mr. K. Karunakaran, the Gujarat chief minister, Mr. Madhavsinh Solanki, the Assam chief minister, Mr. Hiteshwar Saikia, and the Sikkim chief minister, Mr. Nar Bahadur Bhandari.

Mr. Gadgil referred to the concern expressed in certain quarters about the encroachment by national programme over television on the timing meant for the regional language programmes. The factual position was that the duration of the national programme "has remained unchanged," he said.

"We have only added a network programme of half-an-hour which puts out items of social relevance or wholesome entertainment. This also gives us a flexibility for putting in at short notice any programme of urgent nature without disturbing the format of the national programme."

The minister said in order to ensure that the interests of the viewers of the regional programmes were safeguarded, the organisation timings had been advanced by half-an-hour in the evening.

TV Expansion

"I hope that this would set at rest the doubts raised in this regard," he said apparently seeking to dispel apprehensions voiced in this regard generally among political parties in Tamil Nadu.

Mr. Gadgil also spoke of the exhibition of films with interpolations of portions excised by the Central Board of Film Certification and insertion of portions not shown to the CBFC.

"There is imperative need to be more vigilant to check this menace," he told the states referring to the fact that there were laid guidelines for the purpose by the CBFC.

On the expansion of television, he said by the year end, about 70 per cent of the population would be covered and another 10 per cent was to be added to it during the seventh five-year plan period.

Mr. Gadgil said the full-fledged TV studio centres at Bangalore, Ahmedabad, Trivandrum and Guwahati were expected to come into operation by 1986-87, at Calcutta and Jaipur in 1985-86 and at Hyderabad and Lucknow during 1986-87.

He said during the seventh plan period attempts would be made to provide similar facilities at the various state and Union territory capitals at least.

He said the government was working on a three-tier system of software production which envisaged preparation of programmes at the national, regional and sub-regional levels. Priority would be given to setting up of state and regional production centres.

Mr. Gadgil said under the special plan for TV expansion in the northeastern region production centres at eight places would become fully operatioal during 1986-87. Transmitters and studio equipment for all these centres had already been ordered.

The special plan also included establishment of six low power transmitters at various places in the region. Commissioning of these LPTs would materialise only during 1986-87 because of certain technical difficulties, he said.

Mr. Gadgil said the response by the states to the Centre's request for provision of community viewing sets in rural areas "has not been very encouraging."

Air Modernisation

About All India Radio, the minister said in order to provide technologically superior signal, AIR would be starting the use of Frequency Modulation (FM) system, which would also look after the communication requirements with reference to the local development needs.

Mr. Gadgil said during the seventh plan priority would be given for modernisation of AIR but asked certain states to ensure uninterrupted power supply for AIR and Doordarshan.

He said the first ever prize for development of rural communication instituted by the UNESCO-IPDC had been awarded to the Kheda community TV project in Gujarat.

On video piracy, the minister sought the co-operation of states for effective enforcement of the amended Cinematograph and the Copyright Act providing for punishment to check this illegal activity.

He said the pirated video cassettes had seriously damaged the film industry. They also tend to include objectionable material.

Mr. Gadgil said two long pending issues pertaining to film industry which needed to be finalised early were the schemes for the construction of theatres and mini-theatres in the rural areas and the reduction in the rate of Entertainment Tax, especially because of the challenges posed by the video.

But, he said, the electronic and other modern media should not make the people ignore the importance of traditional modes of communication particularly on occasions like festivals, melas and folk dances.

He sought the states' help in bringing to the notice of the directorate of advertising and visual publicity the instances of communal writings indulged in by newspapers so that the desirability or otherwise of giving advertisements to such newspapers could be examined.

Maharashtra Plea

UNI adds: The Maharashtra minister of state for information and public relations, Mr. Ram Manohar Tripathi, suggested that the regional news bulletin on Bombay Doordarshan Kendra should give more prominence to news emanating from the state.

Speaking at the information ministers' conference, he said it was observed that at present the regional telecast at 7.30 p.m. from Bombay, did not give sufficient time to news pertaining to development activities in the state.

The state activities and developmental work would be highlighted better if the nature of the bulletin was made more regional catering to the demand of the people, he said.

Dr. Tripathi suggested that in case of any difficulty in changing the nature of the regional bulletin, as an alternative, its duration should be increased to 20 minutes, half of which could be exclusively devoted to the news of the state activities.

He also suggested that the feature "Vrattachitra" to cover the developmental activities of the state should be made more frequent with longer durations to do full justice to the topics.

He said it was desirable to have weekly meetings of the officials of the state information department, All India Radio and Doordarshan to ensure closer coordination in publicising the developmental activities.

State Scheme

Dr. Tripathi said to enable rural masses to get full benefit of the television expansion programme, the state government had formulated a scheme for supplying colour television sets to about 1,600 villages during the current silver jubilee year at a cost of Rs. 1.5 crores.

Meanwhile, the Haryana government on Wednesday called for setting a "full-fledged" television entre and a radio station at Hissar to preserve and promote the state's cultural heritage.

Participating in the conference, Haryana's public relations minister, Mr. Artar Singh, said Hissar, being an important divisional headquarters and the seat of Asia's one of the finest agricultural universities, rightly deserved the location of a TV centre.

The Kerala chief minister, Mr. Karunakaran called for strengthening Centre-State co-operation in mass communication.

The Karnataka information minister, Dr. Jeevaraja Alva, said the Hindi and English programmes telecast over the low power transmitters were appreciated with difficulty by those in the rural areas.

The Gujarat chief minister, Mr. Madhavsinh Solanki, said that some sections of the press excited public passion when the trouobled situation in the state showed signs of returning to normal.

"For some section, concern for public interest has become nothing but propagation of the views of certain vested interests," he said addressing the conference.

Press Code of Conduct

Calcutta THE TELGRAPH in English 20 Jun 85 p 1

[Text] New Delhi, June 19--The state information ministers and the Union minister of state for information and broadcasting, Mr V. N. Gadgil, have unanimously expressed the need for the press to evolve a code of conduct.

This opinion was put forward at the 18th conference of state information ministers here today. The conference was attended by 24 information ministers, including the chief ministers of Assam, Gujarat, Kerala and Sikkim.

Mr Gadgil addressed a crowded press conference after the meeting and faced a barrage of questions about the so-called code of conduct when he said, "All of us were unanimous in urging the press to itself evolve a code of conduct. We did not accept the proposal that the Union government should formulate a code of conduct. But if there is a code of conduct for the legal profession and the medical profession then there should be one for the press."

Mr Gadgil added that there was a view that the initiative in formulating the code should be taken by the Press Council and that no suggestions had been made at today's meeting on what should be included in the code.

Asked why the necessity for a code of conduct was being felt now, Mr Gadgil said it was because the Press Council had not yet come up with one. Asked whether the proposed code would be applied to Doordarshan and AIR when they gave biased or distorted reports, the minister said, "We already have a code evolved by the Media Advisory Committee 20 years ago." The minister laughed when a correspondent asked him if he would be satisfied if the press abided by the proposed code in the same manner that AIR and Doordarshan abided by theirs.

The minister mentioned two specific complaints against the press coverage. However, he said that during this morning's meeting he had reiterated that "we want a free, responsible, healthy, unsubsidised press."

Referring to his proposed communications policy, Mr Gadgil said he wanted a national debate on the creation of an "information society," in which information would be more freely available.

He admitted that in the course of this debate the role of the press would be open to discussion. But the minister categorically said the government would not consider autonomy for Doordarshan or AIR.

Mr Gadgil said the state information ministers had discussed AIR and TV and had suggested that radio transmitters be set up on a priority basis in the tribal areas and border areas. The Centre, he said, agreed with this view. Regarding Doordarshan, the only major complaint was the lack of regional language programmes on the national network, Mr Gadgil said, adding that he had told the ministers there was no intention to impose Hindi or any other language.

The minister told the meeting that a statement on the proposed national communications policy was under preparation and would be circulated as soon as the draft was ready.

He said full-fledged television studio centres at Bangalore, Ahmedabad, Trivandrum and Guvahati would come into operation in 1986-97 and those at Calcutta and Jaipur were expected to start functioning in 1985-86. Mr Gadgil also expressed the hope that a second channel would be available in Madras and Calcutta by this year.

CSO: 5550/0118

INDIA

ECIL TO MAKE FOURTH GENERATION MAINFRAME COMPUTER

Madras THE HINDU in English 9 Jul 85 p 11

[Text] HYDERABAD, July 8.

The Electronic Corporation of India Limited (ECIL) will herald its entry into the high-tech area with the manufacture of the fourth generation mainframe computer.

The 32-bit computer is to be made by ECIL for the Department of Electronics (DOE) with American technology. A site for the Rs. 100-crore project has been identified at Hakimpet on the outskirts of the twin-cities.

ECIL, a public sector undertaking under the Department of Atomic Energy (DAE), is also a member of the Scott-Sterring Committee on Technology Transfer, a consortium of ECIL, Indian Telephone Industries (ITI) and Bharat Electronics Limited (BEL), seeking joint collaboration in the high-tech area.

Common collaborator sought: Dr. P. R. Dastidar, Chairman, and Mr. B. S. Prabhakar, Managing Director, ECIL, told visiting newsmen from Hyderabad and New Delhi, that the main objective of forming the committee in April was to select, through calling of global tender's a common collaborator to get the latest state-of-the-art technology in communications. The consortium members would equitably share the cost of technology transfer and save money. Eleven countries had shown interest in the Scott plan.

Transfer of manufacture: ECIL's thrust in the years to come will be in the spheres of computers, communications and control systems and as it gears itself to enter the high-tech area, it will progressively leave the field for the Andhra Pradesh Electronics Development Limited (APEL) to take over manufacture of its products like transrecelvers.

Applications in strategic areas: ECIL computer systems find applications in strategic areas. It has provided reactor monitoring systems for the Kalpakkam atomic power station, telesupervisory systems for the oil industry, satellite monitoring system for the Department of Space, data acquisition system for the power plants and flight data analyser system for Indian Airlines.

It is planning to upgrade the micro-32 computer in three years to make its contemporary. Ten micro-32s were manufactured last year and 50 are projected for the current year. ECIL is also awaiting clearance for manufacture of video cassette recorders (VCRs).

Step-up in investment: Mr. S. N. Telang, General Manager, Communications systems group, said the Seventh Plan would witness a four-fold increase in investment in the communications field to Rs. 60 crores. The new products will be digital radio, digital facsimile, pulse-coded modulator and a new generation of antennae like two-degree spacing satellite antennae and rooftop earth stations for air traffic monitoring. ECIL will supply two 30-metre tropo-antennae with associated feed systems to the Soviet Union for activating the troposcatter link between India and the Soviet Union.

'Black box' made: Among the many products the ECIL makes are cockpit voice recorder, better known as the "black box" and X-ray baggage inspection systems for the airports.

ECIL has so far sold 22 "black boxes", mostly to the Soviet Union for use in the MIG aircraft, helicopters and small aircraft. Products valued at Rs. 60 lakhs were exported to the country last year. Negotiations were under way to export items worth Rs. 50 to 60 crores

CSO: 5550/0132

ONGC TELECOM NETWORK TO BE OPERATIVE BY END 1986

Calcutta THE STATESMAN in English 21 Jun 85 p 13

[Text]

THE Oil and Natural Gas Commission will put into operation by end-1986 short and long distance telecommunication networks, ensuring tie-ups among its exploration and drilling sites spread all over the country for easy speech, facsimile and teleprinter telecommunications, reports UNI. A Rs 30-crore fund has been set up for the purpose.

ONGC sources here say that a State public sector company has already been awarded a turn-key project worth Rs 10 crores for indigenous production of the equipment. The proposed manufacturers will, however, draw on the expertise of their Japanese collaborators. The networks would be operational in 18 months.

The commission, keen on mounting a substantial communications system and a computerization programme has decided on this particular phase of modernizing the existing communications system in keeping with the recommendations of the high-powered group that was set up in 1982 with the sole objective of implementing its development plans.

As is the case, ONGC's regional communication requirements are primarily in the shape of short distance requirements of oil production units which are laid out in the form of a cluster of States and long distance requirements of widely spread out exploration and drilling sites.

In keeping with the group's recommendations, the requirements of the production units are planned to be met by a "multiaccess" which is actually a modified version of the typical "multiaccess" rural telephone system. "The first such system is currently under installation in the eastern region. As for the long distance category, the emphasis will be on the multicontact systems.

This apart, ONGC has decided to plug all its major operational telecommunication facilities into the Insat-IB satellite system when commissioned. Likewise, the Centre has approved another significant ONGC proposal to establish communication channels cashing in on the satellite's communications system.

The sources said tha operation of such channels would be imperative for transfer of data for processing in the computers to be mounted at ONGC's corporate and regional headquarters under an ambitious computerization programme coinciding with the Seventh Plan. The work in this regard would be finished around 1987.

As far as operating the satellite communication facilities is concerned, the commission has already procured the equipment for three terminals, one each at BHN platform, Bassein south platform, offshore and at Uran, onshore. While the terminals at BHN and Uran have been commissioned, the one at Bassein south is expected to be on stream in 1986 when the platform is expected to be erected.

Besides, the remaining four channels of the 12 channel capacity BHN-Uran satellite link are expected to become operational around early 1986, they added.

CSO: 5550/0120

DOORDARSHAN PLANS EXPERIMENTAL USE OF DECODER

Bombay THE TIMES OF INDIA in English 21 Jun 85 p 5

[Text]

NEW DELHI, June 20: British teletext specialists have offered a world system with low-cost decoder that can provide TV viewers anytime with news, weather, sports and other types of information in any Indian language.

Doordarshan has proposed experimental introduction of teletext service in Delhi by December using the French system. It has deputed engineers to familiarise themselves with the system.

Strangely, few TV manufacturers have prepared to equip the sets for receiving teletext.

The small teletext decoder is built into TV receivers and operates through remote control. This means that adapting existing receivers does not seem a practical proposition. The alternative is to provide a separate adaptor outside the TV receiver.

The world system envisages continuous feeding of information from various sources to the equipment set up at the studio. Even when a regular programme is on, the viewer by switching on the decoder can get the latest news and other information on the TV screen.

FLIGHT TIMINGS

Doordarshan is making arrangements with sources like the international airport authority for flight timings, the meteorological department for weather forecast and news agencies for spot news on general subjects and on foreign exchange rates and so on.

The government-owned ECIL has been chosen as prime contractor for importing equipment from France and erecting it in Doordarshan studio.

At a technical conference three specialists from the U.K. gave representations on the world system, teletext, which they claimed was now fully operational in 16 countries.

They explained that in the world system to minimise decoder costs as much processing of data as possible is carried out at the sending end.

CSO: 5550/0119

DOCUMENT ATTACKS PERFORMANCE OF INDIAN TELEVISION

New Delhi PATRIOT in English 21 Jun 85 p 1

[Article by Pankaj Pachauri]

[Text] Doordarshan has come in for severe criticism from its producers for its ad hocism, lack of physical infrastructure, unimaginative programming and unprofessional attitude.

A recent document, brought out by the Doordarshan Programme Producers Association and presently a matter of earnest debate in Delhi Doordarshan corridors, has called for an immediate "restructuring" of Doordarshan to "protect cultural particularities and national identity".

A copy of the document was submitted to Information and Broadcasting Minister V N Gadgil almost a month ago.

Questioning the very rationale of trying to compete with advanced TV systems without setting its own house in order, the 45-page document, entitled "In Search of a System—Doordarshan" suggest that it is the authorities, superficial thinking without foreseeing the implications on various aspects of the medium", that is at root of Doordarshan's current malaise.

Even as the document recognises that "the need of the hour is to raise quality to compete with international standards", the association laments that in the absence of "a professional studio complex, working system, training and involvement of programmers in planning transmission", it is like asking for the moon.

The document refers to Studio No. 1 as "an apology for a studio". The lights are not suitable for colour recordings, camera rooms are absent, as is a camera control unit and the production control room is saddled with "outdated junk" which is being "run somehow", it says.

In the event, the producers mock Doordarshan's grandiose ambition of competing with advanced TV systems like the BBC. On the one hand, the document is unimpressed by mere expansion of the medium's reach without corresponding adjustments with the "needs of our poor country" and on the other, it is sceptical about indiscriminately borrowing TV serials from other countries which not only show 'desi' efforts in a poor light but also highlight "how far we have compromised on quality and professional standards".

If the producers are to be believed, there is little advance planning with the result that technical and practical programme requirements are often not met.

"The constant pressure and a passive attitude towards providing an overall professional working system have only resulted in a lack of initiative, acceptance of lower standards and frustration among professional staff", the document says.

In the event, while real professionals get a raw deal, those who come through the good offices of "other forces" thrive at the expense of professional talent.

CSO: 5550/0122

INFORMATION MINISTER OPENS ASIA-PACIFIC MEDIA MEET

Bombay THE TIMES OF INDIA in English 27 Jun 85 p 9

[Text] NEW DELHI, June 26--The minister of state for information and broadcasting, Mr. V. N. Gadgil, today stressed the need for co-operation among the members of the Asia-Pacific Institute for Broadcasting Development (AIBI), In the matter of exchange of news, current affairs and broadcasting services.

He was inaugurating the 11th meeting of the governing council of the body, Mr. Gadgil said that co-operation among countries in the region was of crucial importance to all.

He said this could be achieved by providing training facilities available with some of the member countries to those who need it. Identification of service training needs could be done by the National roadcasting Organisation.

Realising the importance of broadcasting, AIBD was founded in 1977 by UNESCO, UNDP and about a dozen other countries, including India.

The minister said it would also be useful to study the efforts made through the forum of NAM in the direction of tackling the problem of broadcasting and mass media in general. This would help to achieve better co-ordination between the efforts of NAM and AIBD, he added.

Praising AIBD, the minister said that despite resource constraints and a host of other problems, the organisation, had largely achieved its objectives. The region had better training facilities, better flow of technical know-how and, above all, a better spirit of co-operation among member nations.

Mr. Gadgil said that India with a large population had a multi-lingual and multi-cultural society spread over a arge area. Illiteracy being high, and resources being scarce, broadcasting was the most effective means of mass communication.

He said radio and television networks, therefore, occupied the prime position as means of communication in the country.

Regarding broadcasting policies, the minister said in a view of the variety of languages, religions, traditions and customs, policy was formulated with due consideration to regional and local aspirations without undermining national unity.

Technologically, radio and TV had taken great strides. India had now the benefit of satellite communication for its broadcasting media and TV coverage had gone up to 70 per cent of the population.

Training Courses

Speaking on the occasion, the chairman of the governing council, Mr. Dato Abdullah Mohammad, said that at the end of 1984 the institute had trained 6,609 persons in 367 training courses, seminars and workshops at the regional, sub-regional and in-country levels.

Of these, 418 were from India, from All India Radio, Doordarshan, ministries of education agriculture, health and family welfare, and a variety of other government and non-governmental organisations.

He said India had been a substantial source of supply of expert resources not only from All India Radio and Doordarshan, but also from the Film and Television Institute of India, Indian Space Research Organisation, Indian Institute of Management, universities, Indian Institute of Mass Communication and a host of other institutions.

CSO: 5550/0124

IMPROVEMENTS IN ALL-INDIA RADIO TRANSMISSIONS PLANNED

Bombay THE TIMES OF INDIA in English 7 Jul 85 p 9

[Article by M. Shamim]

[Text] New Delhi, July 6--With a network of regional short wave stations and frequency modulation (FM) transmission, All India Radio plans to cover the entire country and improve its broadcasts. Though AIR claims to cover 97 percent of the population, there are large areas in the country which receive very weak or no medium wave radio signals.

These areas include Tezpur, Khokarjhar (Assam), Jaisalmer, Barmer attention by AIR, such as Bhiwanichal Pradesh. Similarly, there are hill areas in U.P., H.P. and J. and K., which have been left uncovered. So are Lakshadweep and Minicoy islands.

There are some tribal areas also which should have been paid better attention by AIR, such as Bhiwanipatna in Orissa, Ahwa in Gujarat and Shahdol and Shivpuri in Madhya Pradesh.

In Karnataka, Kerala and Maharashtra there are some districts which receive very poor medium wave signals.

According to sources, AIR has already identified the areas that are at the moment left uncovered or are receiving weak signals. In most of these places AIR plans to set up new medium wave and VHF-FM transmitters.

AIR, ever since its inception, had set up MW (medium wave) SW (short wave) stations. Little attention was paid to VHF/FM bands because of its difficult transmission technology. Until the transistors with integrated circuits arrived on the scene, the VHF/FM receivers were expensive. But now things seem to have changed.

Most new transistor sets have an FM band which cost only Rs 150. The cost of the set is expected to further come down once mass production starts. Besides, thanks to the TV expansion, complicated technology is no more a problem to the country.

The director-general of AIR, Mr Suresh Mathur, sounds very enthusiastic about setting up a chain of FM transmitters in the country which will serve local stations. This does not mean that AIR has given up new stations. On the contrary, in a large number of areas, MW stations would be set up because a majority of listeners have sets which don't have the FM band. AIR's expansion programme includes short wave, medium wave and FM band transmitting centres.

According to Mr Mathur, VHF/FM transmission cost is low, less than that of MW, the voice reproduction is much better and there is no variation in the quality of its signals during day and night. The medium wave transmission is facing some problems. The medium wave band provides only 120 channels.

Mr Mathur explains that FM transmissions can be used for stereophonic broadcasts of high quality because noise is eliminated. Besides, the frequencies can be repeated without any fear of disturbance from other stations operating on the same frequency.

Another advantage of FM transmitters is that TV towers can be used for broadcast. The FM signals and the TV signals travel in the same manner and have more or less the same range. This would reduce the capital cost. AIR, therefore, proposes to set up new local radio stations on the FM band in the uncovered areas as well as those areas where local stations are needed.

Several states have complained that regional programmes broadcast on short wave cannot be heard throughout the state since there is no link between the regional radio station and other medium wave transmission centres.

Also, during the last two decades, the short wave bands are crowded. Many stations interfere with each other's signals.

The International Communications Union had allowed AIR to upgrade its regional short wave stations so that its broadcasts could be heard without interference. AIR has 15 regional short wave transmitters with power ranging from 1 to 10 kw. AIR now wants to set up 50 kw short wave regional stations at some state capitals and also upgrade the old ones.

Border Areas

In the border areas, AIR may even set up 300 kw medium wave stations. This is considered necessary because some of the neighbouring countries have powerful radio stations.

AIR also proposes to do most of its broadcasting through satellite on a limited scale. It is already doing it with the help of INSAT-I. But it would like to do this on a much larger scale when Proto-INSAT gets into orbit in 1988-89.

Through satellite, AIR also proposes to provide links between regional stations and the local stations. This would enable the state governments to cover the entire state through radio which at the moment is often not possible.

CSO: 5550/0128

CONSORTIUM TO FACILITATE HIGH-TECH TRANSFERS FORMED

Calcutta THE TELEGRAPH in English 7 Jul 85 p 5

[Article by Tania Midha]

[Text]

Hyderabad, July 6: Three public sector giants, Electronics Corporation of India (ECIL), Bharat Electronics (BEL) and Indian Telephone Industries (ITI), have formed a consortium to facilitate high technology transfers in telecommunications.

The consortium called Steering Committee on Technology Transfers (SCOTT) would float common global tenders for the import of telecommunications knowhow in "high technology, high reliability and high availability areas," the managing director of ECIL, Mr B. S. Prabhakar, told newsmen here. The cost of these tenders would be shared equally by the three organisations who would use the knowhow according to their separate requirements.

A decision to this effect was taken last month "to face the massive competition expected from the private sector following the opening up of the telecommunications field," Mr Prabhakar said.

Briefing newsmen on the main thrust of the ECIL expansion plan, Mr Prabhakar listed telecommunications, computers and control and instrumentation systems as the three main "thrust areas."

In telecommunications, he said, stress would be laid on a new generation of antennae, digital radio systems, digital facsimile, pulse code modulators and low cost terminals such as roof-top earth stations. Present transreceivers would be passed on to state electronics corporations and a new range of synthesised transreceivers would be adopted.

With regard to computers, ECIL was trying to upgrade their mainframe 332 system to what has been tentatively called a "fourth generation 432 system." Sources confirmed that the department had decided on collaboration with Honeywell Bull, the United States-based computer firm, for the new system.

Although ECIL was originally established as a supplier of components and controls and instrumentation systems for nuclear facilities, today these comprise less than a quarter of its production. The bulk sales come from consumer electronics like televisions (ECTV), computers and telecommunication.

However, the corporation is still under complete control of the department of atomic energy. Asked whether there was any move to transfer it to the department of electronics, the chairman, Mr P. R. Dastitar, said there was no such plan and added that "a large part of the initiative in ECIL was due to the autonomy it enjoyed under the department of atomic energy."

CSO: 5550/0129

PLANNED RADIOTELESCOPE TERMED A MAJOR BREAKTHROUGH

Bombay THE TIMES OF INDIA in English 9 Jul 85 p 9

[Text] New Delhi, July 8--The world's largest radio telescope that could unravel the mysteries of the formation of galaxies and also facilitate a major breakthrough in communications is to be located in Pune or Indore.

At least half-a-dozen universities will be involved in the Rs 20-crore project which will function under the aegis of the department of atomic energy. This will enable academics and alumni interested in advanced astronomical research to pursue their studies within the country.

The project, sponsored by the radio astronomy centre of the Tata Institute of Fundamental Research, is expected to be cleared by the planning commission and the government before the month-end.

The astronomy centre located at Udhagamandalam has been chosen to participate in the world-wide Halley comet watch next year. A fellow of the centre had discovered the plasma trail of comets.

At the Udhagamandalam (Ooty) centre, a brainchild of the late Dr Homi Bhabha, the radio telescope is capable of receiving signals from a once-KW station a billion kilometres away. Parallel to the Axis of earth's rotation it is four times more sensitive than Jordrell Bank of the United Kingdom. The Ooty telescope's very long base-line interferometry is claimed to be so powerful that it can detect even continental drift.

According to Dr Govind Swaroop, director of the centre, the know-how developed by it has "enabled our scientists to remain at the frontiers of Radio astronomy." Dr Swaroop set up India's first radio telescope at Kalyan near Bombay in the mid-sixties.

Achievements by the Ooty centre include a breakthrough in signal-processing of radio receivers and solar energy concentrators in addition to fabrication of equipment for study of astronomy and space. The great metre wave length radio telescope (GMRT), as the proposed project at Pune or Indore is called, is expected to produce a much wider range of equipment for satellite and space applications and digital technology.

Pune's claim to the location of this national facility is based on certain advantages provided by related institutions existing there. Indore's status as a fast emerging centre of advance scientific studies will be enhanced by the addition of the project for frontline research in astrophysics.

CSO: 5550/0130

BRIEFS

CIRCUIT BOARD DESIGN--Bangalore, June 28--The Research and Development Centre of the ITI has made a completely integrated computer-aided design software system for the optimum use of printed circuit boards used in the manufacture of a wide range of electronic equipment and systems. The system was formally handed over by Mr K.P.P. Nambiar, Chairman and Managing Director, to Dr E. Bhagiratha Rao, Director, Defence Electronic Research Laboratory, Hyderabad, at a function here today. The system enables the design of highly complex printed circuit boards in a fraction of the time ordinarily taken through manual operation. The software was progressively developed over the last eight years by the ITI engineers and was initially used for in-house design of printed circuit boards. As wider applications of the system emerged, the R and D undertook the indigenisation of all the software into one complete design system termed Nirman. The ITI said it had received orders from leading electronics companies for the supply of Nirman. The first delivery was today effected to DLRL for application in the development of sophisticated defence electronic systems. At the function Mr Nambiar stressed the importance of development of computer-aided design tools for rapid progress in electronic systems. [Text] [Madras THE HINDU in English 29 Jun 85 p 9]

LAKSHADWEEP RADIO PLANS--Cochin, July 8--The minister of state for information and broadcasting, Mr V.N. Gadgil, today announced the Union government's decision to set up a 20-Kw medium-wave transmitter with a fully equipped studio of All India Radio in the Lakshadweep. Mr Gadgil made the announcement while inaugurating a seminar here on "The role of information in development of backward areas" here. He also released a documentary produced by the Films Division "The Everlasting You." The Lakshadweep administrator, Mr Omesh Saigal informed the minister that land for the radio station had already been allotted by the administration. [Text] [Bombay THE TIMES OF INDIA in English 9 Jul 85 p 9]

TELEGRAPH SYSTEM MODERNIZATION--New Delhi, July 6--The Minister for Communications, Mr Ram Niwas Mirdha, yesterday spelled out schemes to moderate the telegraph network and make it possible to transmit a majority of telegrams from any telegraph office to their destinations within four to six hours. Addressing the Parliamentary Consultative Committee attached to his Ministry, Mr Mirdha said it was proposed to replace the tedious Morse working with a specially developed electronic keyboard. He said the communications department was aware that the telegrams were subjected to delay in transmission and delivery on certain occasions owing to limited circuit availability and frequent power failures. The department had taken a number of measures to speed up the transmission and delivery systems and was monitoring the process. Mr Mirdha indicated that the outlay for the Seventh Plan approved for the department was much lower than that sought by the department. This would, the Minister said, entail modifications in many programmes. Efforts were still being made to secure an increase in the outlay. [Text] [Calcutta THE STATESMAN in English 6 Jul 85 p 11]

NEW TELEPHONE EXCHANGE--A new telephone exchange, costing Rs. 1.45 lakhs, was opened at village Khachane in Jalgaon district, 60 kms from here yesterday, by Mr. K. R. Sonawane, divisional engineer, telegraphs, Jalgaon division. [Text] [Bombay THE TIMES OF INDIA in English 29 Jun 85 p 12]

CSO: 5550/0125

IVORY COAST

BRIEF

IVORY COAST TV SECOND CHANNEL GETS NEW TRANSMITTER--Transmissions on service two of the Ivorian Television Network which, as you know, have been going on for some months now, will henceforth be better received. This is due to the installation of a new transmitter. I would like to remind you that transmissions on this second service can be received on channel 6 within a radius of 50 kilometers around Abidjan. [Text] [Abidjan Domestic Service in French 1245 GMT 19 Jul 85 AB]

CSO: 5500/175

DOE OUTLINES PLAN FOR NATIONAL RADIO STATION

AB301928 Monrovia Radio ELWA in English 1710 GMT 30 Jul 85

[Text] The head of state, CIC [Commander in Chief] Dr Samuel Kanyon Doe, has announced government's decision to establish a modern national radio which will reach every corner of Liberia and abroad. Addressing the opening session of the first county convention of the National Democratic Party of Liberia, NDLP, in Voinjama yesterday, Dr Doe pointed out that in spite of the great need to keep all Liberians and foreign residents informed of the day-to-day developments in the nation, government has realized that most of the people residing outside of Monrovia area were not benefiting from programs aired on the national radio.

The Liberian leader said in order to alleviate this situation once and for all, employers and government services as well as public corporations and the private sector will contribute 50 percent of their August salaries towards the project, while citizens and residents in rural areas are to make a contribution of $10 per hut towards the project.

With respect to the payment of $10 per hut for those in rural areas, Dr Doe recalled that the defunt PRC [People's Redemption Council] had abolished the tax because of the hardship imposed on the people and explained that the abolition was not intended to isolate them from participating in the development of the nation. Dr Doe said in view of the importance government attaches to the establishment of this modern national radio broadcasting service, it was very important that those in the rural areas involve themselves in this particular development project that will benefit all of us and those residing within our borders and beyond.

The Liberian leader said in taking this action, government was mindful of the fact that for most Liberians this would mean a real sacrifice. He added that government was equally convinced that this action would serve the long-term interest of all Liberians and foreign residents. He reminded Liberians that the task of developing Liberia could only be done by Liberians themselves and called on everyone to support this national undertaking so that we can develop our national radio to a stage of national pride. Dr Doe further said government will also welcome contributions and assistance from our partners in progress and all those who feel that the establishment of the modern radio station is a (?worthy cause).

CSO: 5500/177

LIBERIA

BRIEFS

TV TRANSMISSION PROJECT SLATED FOR 1985--Bong County is to benefit from a television transmission project to be undertaken by the Liberian Government with assistance from the Japanese Government before the end of this year. The Bong County newspaper, quoting the resident television technician for Bong County, Mr Christian Vincent, said the program would constitute part of the Liberian Broadcasting System's [LBS] test transmission extension of (?leeward) counties. The paper said that Mr Vincent made the disclosure recently when some experts from Japan toured the counties to assess suitable sites for central location transmitting points. The paper quoted Mr Vincent as disclosing that two other transmission sites would be constructed in Grand Bassam and Grand Cape Mount Counties. Mr Vincent then appealed to the LBS management to design a program that would give television owners in the counties in-depth understanding of the operations of the test. He said this would help familiarize television users with the system during the time of tuning and adjustment of the test, according to the paper. [Text] [Monrovia Radio ELWA in English 2000 GMT 25 Jul 85 AB]

CSO: 5500/178

INDEPENDENT STATIONS CONTINUE TO GAIN LISTENERS

Johannesburg SUNDAY TIMES in English 30 Jun 85 p 3

[Article by Ciaran Ryan]

[Text]

THE battle for radio listeners continues to be won by independent stations at the expense of State-owned radio.

But a surprising turn in Radio 5's fortunes is evident in the All Media Products Survey (Amps) for the first quarter of 1985. The mass desertion of Radio 5 listeners to other music stations appears to have abated.

Capital Radio has had the most remarkable increase in listeners relative to its size.

Springbok gain

The SABC appears to have made the right decision to regionalise its Radio Highveld and Good Hope services because Amps has bad news for both services.

Springbok gained 30 000 listeners from other SABC stations, only to lose many of them in recent months. But it is too late to save the station which will be scrapped at the end of 1985. From July 1 the station will close down at 7.30 because of a sharp decline in evening listenership.

Advertising

The reason given by the SABC for the closure is that the cost of producing the programmes is too high. Willie Visagie, organiser of media relations at SABC says: "Springbok's plays and news programmes were expensive to produce. The service will be rationalised with the English and Afrikaans services and several of the best programmes will be incorporated in the new service."

Springbok's income last year was R14,5-million. The SABC appears to have taken an overall view of its national services and decided to merge Springbok with the English and Afrikaans services which do not carry advertising. The trend, according to Amps figures, is away from national to regional advertising.

Radio 5 increased its weekday audience from 290 000 in the last quarter of 1984 to 313 000 in the first quarter of this year. The figures relate to white, coloured and Asian listeners.

The increase is less comforting when compared with Radio 5's reported 358 000 listeners in the first quarter a year ago. In the past 12 months Radio 5's audience has fallen from 7,1% to 5,8% of the nation's potential 5,4-million audience. The station's income dropped from R6,8-million in 1982 to R5,7-million in 1984, but is likely to recover this year.

Breakfast

In the Transvaal, Radio 5's coverage of the white market fell from 10,1% to 8,8%. But Martin Bailie's breakfast show proved popular and audience figures have remained constant over the past year in the face of a continued onslaught from Radio 702 and John Berks' breakfast show.

The controversial Berks is 702's biggest attraction. His morning show now has 117 000 white listeners at any one time compared with 101 000 last year. This represents a coverage of 6,7% of the Transvaal's white population as against 6% last year.

According to advertisers, it is virtually impossible to place an advertisement on Berks' breakfast show between now and the end of the year.

Capital up

John Berks is proving worth his reported salary of R250 000 for this year — easily affordable for 702 whose income for the year is likely to exceed R12-million.

But in overall terms 702 cannot be pleased with the latest Amps survey. Its total audience declined from 412 000 to 394 000. Its coverage of white listeners in the Transvaal nevertheless rose from 25,3% in the first quarter last year to 25,8% this year. The figures indicate that 702 has increased its audience size compared with the same time last year, but a levelling off is evident.

Capital Radio can be happy with its performance. It increased its share of listeners from 2,7% to 3% — from 135 000 to 162 000 — between 1984 and 1985. Most of its gains have been at the expense of Radio Port Natal and Radio 5 in Natal.

Martin Rattle, director of programmes and marketing at Capital Radio, says the biggest advances have been

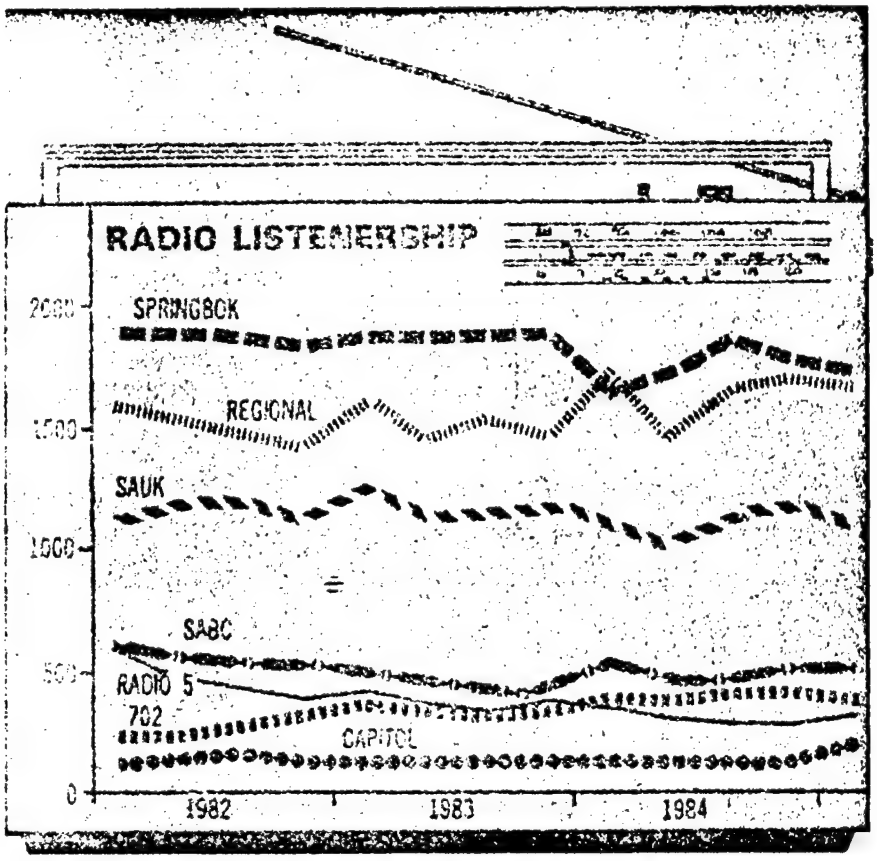
made in the 16 to 34 age category.

"Our morning show with Phil Miles, the midday women's slot with Sue Grant and Kevin Savage's evening programme have been the biggest successes."

Startling

Mike Armstrong, media director for Partnership, told Business Times: "Closer examination shows that white listenership at any one time of Phil Miles' breakfast show on Capital Radio increased to 83 000 from 29 000 this time last year. This is a startling increase of almost 300% in the white audience for this show."

The SABC's Afrikaans service has held its listenership at about 1,103-million in the last year, but the growth in total audience size means its coverage has dropped from 21,9% to 20,5%.



Capital, Highveld and Radio 5 come out tops

CSO: 5500/174

INEFFECTIVENESS OF RADIO UGANDA DEPLORED

Kampala FOCUS in English 11 Jun 85 p 2

[Text]

UGANDA'S National Radio, Radio Uganda, is no longer covering the whole of the 94 sq. miles of the Ugandan territory, and thus forcing millions of Ugandans living outside 50 miles radius from the capital Kampala to tune foreign Radio stations, especially those of the neighbouring countries, the British Broadcasting Corporation, (BBC), Vioce of German, and Radio South Africa.

According to an eight weeks on the spot survey carried out by "FOCUS", people living outside Kampala have complained of not constantly getting Radio Uganda for now almost two years. And when it abruptly comes on air, it is very faint, distorted and hardly lasts on air for a week.

Even Kampala dwellers with Radio sets without an F.M. (Frequency Modulation) band as the majority are constantly in a black out when the medium wave and short bands go off air.

In Kasese, and most parts of Western Uganda, and North Western Uganda (West Nile) people there tune Zairean Radio stations, especially Radio Bunya or Bukavu. Those of Kabale and neighbouring areas in South Western normally tune Radio Kigali and Bujumbura. Yet those in Karamoja, Teso, Toroto, in the East, Kitgum, Gulu in the North their favourable radio stations are Voice of Kenya, and Radio Tanzania. But many of them especially the Youth, enjoy more the music part of broad cast, than the news bulletins and little or no attention to other pragrammes.

Common questions, posed to ten randomly selected people in Busia, Iganga, Kapchorwa, Soroti, Mbale, Kitgum, Gulu, Moroto, Moyo, Arua, Nebbi, Masindi, Rukungiri, Kasese, Bushenyi, Kisoro, Ntungame, Kabale, Lyantonde and Kyotera, revealed that Radio Uganda is ineffective in areas farmway from Kampala and people have lost confidence of unce rtainity when the Radio comes on air and thus discouraging them from tuning it. "This is no longer Radio Uganda but Radio Kampala," one Soroti resident told Focus "Your Radio broadcast when it wishes", a Kasese resident commented.

On eht contents of the programmes, when it comes on air, the teenage and those in early twenties enjoy more the music programmes especially those known as "latest music" and demand more of such music. People of early thirties and above complain of too much music over Radio Uganda, a total absence of develo pmental or educational

programmes and inadequate coverage of all events taking place in the country and too much protections inism.

They also complained of too much patriotic music over Radio Uganda and politicking biased on one party

Uganda Private Newspaper earned credit for what the intervieweers termed wide coverage of events in the country particularly those neglected or deliberately left out by Radio Uganda

But people outside Kampala lamented that these Newspapers reach them too late normally four or five days later

At the Ministry of Information headquarters, the constant breakdowns of Radio Uganda services was blamed on the break down of transmitters both of short wave band at Bugolobi and Kibira in Kampala and that of medium wave at Mawagga on Mityana Road due to old equipments. But the breakdowns of these transmitters was also blamed at negligence and lack of responsibility from top executive of the Ministry and frustrations of Junior officers.

One Radio Uganda Enginner told Focus, that oil worth only 100,000/= for the transmitter at Mawagga on Mityana Road, prevented the medium wave band to be on air for over six months because one top official refused to release money to buy oil.

The Engineer further explained that the F.M band only operates for a distance of 30 miles radius from Kampala and is the one which in now reliable but lamented that very few people have F.M band on their Radio sets.

On the programmes over Radio Uganda, especially patriotic music, one Radio Uganda top executive siad, "This is the UPC government and therefore patriotic music are more important than any other pragramme, we want to rehabilitate the minds of Ugandans."

However, the Uganda Television section of the Ministry has shown more improvement with its programme becoming of a high standard than it has been in the past. Residents in Jinja and Entebbe said they receive better Television services than Radio Uganda services.

Last month, the Uganda Television service imported into the country a number of transimitters from Japan, the Nippon Electric Company (NEC) to be stationed in Kabale, Masaka, Soroti, Lira and Jinja so as to improve on its services in those areas.

And with this development the UTV is soon to cover the whole country, when the Radio is thrinking down to only Kampala.

The dilemma is that they are few Television viewers compared to Radio listenners which calls for the running of both Radio and Television on equal footing especially in the standards and the need to import in more Radio and Television sets.

CSO: 5500/172

ZIMBABWE

FURTHER DEVELOPMENTS TO REDUCE DEPENDENCE ON SOUTH AFRICA

Harare THE HERALD in English 13 Jul 85 p 1

[Text] President Banana yesterday dialled an international call from Gweru to Sweden in a few seconds as a huge crowd saw him officially open the international telephone exchange centre here.

President Banana spoke to Zimbabwe's ambassador to that country, Cde Sifas Zhou, to show the strides made by the Posts and Telecommunications Corporation in its three-year programme to modernise the international and domestic network.

Cde Banana had earlier officially opened the Gweru Telecommunications Training School at Senka.

"The construction of these two facilities at a time of economic hardship is yet another demonstration of the determination of the Posts and Telecommunications Corporation to press ahead with development efforts in keeping with my Government's stated policies and objectives," said the President.

Present were the Minister of Information, Posts and Telecommunications, Cde Nathan Shamuyarira, the Minister of Labour, Manpower Planning and Social Welfare, Cde Frederick Shava, and several Midlands Members of Parliament.

The Gweru centre, completed in November 1983, will link the inter-territorial traffic from the Zimbabwe telephone network to that of Botswana and Zambia through the recently commissioned microwave links.

"It will also link intercontinental telephone traffic through the Mazowe earth satellite station to our local network which makes it possible for us to avoid routing our telephone traffic through apartheid South Africa."

Built with funds from Britain and Sweden, the centre is fully equipped with digital electronic exchcnages and has more than 3 000 circuits linking all continents through the Mazowe earth station.

Training is under way for about 40 operators to staff the centre's switchboards.

Cde Banana said the PTC training school at Senka was a "monumental testimony of the Government's ardent desire to redress the anomalies of yester-years."

The Postmaster-General, Mr Andy Silcox, said the switching centre would use modern digital techniques and add $5,6 million to the PTC assets.

With the opening of the international exchange, Zimbabwe yesterday moved a step further in reducing its dependence on South African telecommunications, reports Ziana.

Although some telephones are still routed through South Africa the link would be severed when the Mazowe satellite station becomes operational.

President Banana said the Government had to establish independent telecommunication links with the outside world to enable Zimbabwe's economy to conduct business swiftly and economically.

"It is also my Government's policy to make Zimbabwe independent of South Africa for the disposal of its international telecommunications traffic and to avoid having to pay transit charges to that country," he said.

Masvingo, Kwekwe, Mutare and Kadoma would be connected to the Gweru centre.

The President commended the Swedish government for training Zimbabwean technicians to run the centre.

The PTC trained 68 technicians last year and at least 141 others are expected to qualify this year.

Earlier the Swedish Ambassador to Zimbabwe, Mr Lars Norberg, said it was his government's wish to help Frontline States to resist apartheid and consolidate their national independence.

CSO: 5500/176

NORWAY OFFICIAL DISPUTES CHARGE NORDIC TELE-X IMPRACTICAL

Oslo AFTENPOSTEN in Norwegian 16 Jul 85 p 4

[Article by Oystein Grue and Ulf Peter Hellstrom: "Strong Assertions In SVENSKA DAGBLADET: Tele-X Can Become A Huge Mistaken Gamble"]

[Text] Tele-X, the Nordic satellite, can become a huge mistaken gamble because, quite simply, there is no market for the satellite in the Nordic countries. So maintains the Swedish Telecommunications Administration according to the newspaper SVENSKA DAGBLADET. This Swedish criticism is being met with scepticism by the Norwegian Telecommunications Administration. Odd Gothe, the director of negotiations in the Industry Department, points to a market survey which is in preparation. "We will await the results of this survey before we decide whether we should carry out a broader survey of the market," Gothe said.

The criticism of the Swedish Telecommunications Administration emerges from the state's so-called referral response in connection with Sweden's activity in outer space during the 1986-1991 period. Tele-X has cost 1.5 billion kroner and will be launched in the summer of 1987. The Swedish Telecommunications Administration is now questioning whether the satellite should be launched at all.

Through the co-owned management company Notelsat, the Swedish and the Norwegian Telecommunications Administrations will be in charge of managing the satellite. The Swedish state is by and large the main financer of Tele-X, while the Norwegian state is providing 15 percent of the financing.

SVENSKA DAGBLADET points to highly placed officials in the Swedish Telecommunications Administration who believe that the satellite's communications services cannot compete with the up-to-date, digital, land-based tele-network which is being planned. As is known, besides communications services, Tele-X will also handle Nordic television programs.

The Industry Department's director of negotiations Mr Gothe, who has played a prominent role on behalf of Norway in discussions about the Tele-X satellite, points out that the state-owned Swedish Rymdbolag [Space Company] is in the process of preparing a market survey for Sweden and Norway.

"As far as we can determine, these preliminary results indicate that there is a market for the satellite's services, in Sweden at least," Gothe said. He cautioned that final figures are not yet available. The survey will also cover market prospects in Norway, and for this reason the department will first study the survey more closely before a decision is made as to whether further surveys are needed.

"The information we have from other countries shows the opposite of what the Swedish Telecommunications Administration has stated, i.e. that there is a need for such a satellite," Gothe said.

"The Norwegian Telecommunications Administration is behind satellite communication. I do not understand how such criticism can come from the Swedish Telecommunications Administration," said Thorbjorn Knutsen, chief engineer of the Telecommunications Administration. Knutsen is the deputy in the administration of the Notelsat management company. He went on to say that the Norwegian Telecommunications Administration will market Tele-X services throughout Norwegian trade and industry, and that the state views the satellite as part of the Telecommunications Administration's integrated services.

AFTENPOSTEN has learned from another well-informed source that there exists a certain competition between the state-owned Rymdolag and the Telecommunications Administration in Sweden, since both organizations want to have significant influence on further Swedish outer space activity in the years to come.

"I assume that there are at present binding contracts which make it impossible to go back on the Tele-X project without losing a great deal of money," John Ragnar Veastad, the Norwegian vice administrative director of Notelsat, said.

Veastad strongly questions whether attempts are now being made in certain quarters in Sweden to debit Tele-X with expenses which Swedish industry incurred through the terms of reference of the telecommunications gamble.

In the government's agreement about Tele-X it is assumed that the Tele-X satellite will be sold to Notelsat at market value. For this reason, the agreement should be adhered to.

If the government's agreement were followed, the Notelsat took over the satellite at market value, then the cost per telecommunications channel would probably be somewhat more realistic, John Ragnar Veastad said. He stated that if the government's agreement is followed to the letter, Tele-X could become profitable for both users and the Norwegian and Swedish Telecommunications Administrations.

Besides, it will take time to build up a land-based data network which can compete with what Tele-X can offer in the way of communications when the satellite is put into operation in the course of 1987.

12789
CSO: 5500/2687

FEDERAL REPUBLIC OF GERMANY

CONTRACT SIGNED TO LAUNCH KOPERNIKUS I,II

Duesseldorf VDI NACHRICHTEN in German 5 Apr 85 p 5

[Article: "Kopernikus Soon to be in Orbit"]

[Excerpts] The two German telecommunications satellites Kopernikus I and II will be placed in their orbit in the fall of 1987 and in the summer of 1988 by the European booster rocket Ariane. The contracts involving the launching of the two satellites were signed on 12 April by the German Postal Minister Dr Christian Schwarz-Schilling and the President of Arianespace Frederic d'Allest in Bonn.

An intensive study of the economics of the Ariane launch preceeded the signing of the contract. Minister Schwarz-Schilling underscored that the postal ministry as administrator of operations has to work economically. Thus, a study was done to determine which of the two launchers--the NASA Space Shuttle or the Ariane--would be more suitable. For launching the two satellites Kopernikus I and Kopernikus II, Arianespace is in a position to offer the more favorable conditions. With this, the European Ariane has become a serious competitor for the American Space Shuttle.

All of the large contracts which were to be awarded within the scope of the DFS Kopernikus project--involving investments in the millions--have now been awarded with this contract, announced Schwarz-Schilling in Bonn. The contract price of the two satellite launches amounts to DM 2 million, per Schwartz-Schilling. The German space industry will have a significant role in these contracts since, of course, it produces the second stage of the European Ariane rocket. After the two 1,400 kg satellites have been lifted into orbit from Kourou in French Guiana in 1987 and 1988, they will be placed in a geostationary position of 23.5 degrees east.

"The telecommunications satellites Kopernikus I and II will put us in the position after 1987 of being able to offer new wide area coverage services for commercial communications," the minister continued. "The system is a rational extension of the present terrestial telecommunications networks which are being digitized apace." In addition these telecommunications satellites will create the potential for funneling audio and video broadcasts into wide band distribution networks and to assure the telecommunications traffic link with West Berlin.

The contract for the development, fabrication and support of three satellites (one of which will be kept on the ground as a reserve) and 34 ground radio stations for the system was awarded by the postal ministry to a German industrial consortium at the end of 1983. Consortium members are Siemens (consortium director), ANT Telecommunications Engineering, MBB/ERNO Astronautics and Standard-Elektrik-Lorenz. The total contract value is DM 865 million.

The postal minister as well as the president of Arianespace Frederic d'Allest, emphasized that with the signing of these contracts a further stride along the path of German-French cooperation has been taken. They represent an important example of the feedback to industry and trade from the space efforts undertaken by the European countries.

The German postal service has become, continued Schwarz-Schilling, one of the largest contract awarders for the German space industry. With the European Ariane rocket, the European space industry has demonstrated its technical capability even against the competition from the United States. However, to remain a credible partner in the space effort it is important that the European space industry remain economically competitive. For this reason the postal department has not pushed for a special development for its own needs but has allowed the offerers to propose satellite developments which each manufacturer could also sell other interested parties.

9160
CSO: 5500/2671

FEDERAL REPUBLIC OF GERMANY

SCIENTISTS DEVELOP ION ENGINE FOR LARGE SATELLITES

Duesseldorf VDI NACHRICHTEN in German 5 Apr 85 p 5

[Article by G. H. Altenmueller "Greater Mobility in Space"]

> [Excerpts] Astronautics is stimulating many research projects in the FRG also. A group of physicists at the University of Giessen now see their hour coming: They expect a lively demand for the engine they have developed for the increasingly larger applications satellites and the ever more complex research missions in space. On 22 March, at the Third Rauhischholzhausen Conference arranged by the University of Giessen and an association of scientific writers, this engine was unveiled to the public.

Electric drives such as this ion engine have a jet velocity which is about ten times that of chemical engines and require much less fuel. For commercial use, such as for telecommunication satellites, this is literally and financially of great importance. For course corrections in orbit--only for this purpose, and not for the launch itself, does one consider the ion engine--much less fuel needs to be carried aloft. This creates more room for payload, thus more transmission channels or a longer functional life in space. And missions to the far reaches of space will be easier and cheaper and can be of longer duration since only a minimum of fuel is required for cruise flight.

After many frustrating delays, a practical breakthrough now appears to have been made; so report [Horst] Loeb [an original developer] and Dr Klaus Groh, director of the Electrical Engines Working Group.

All things considered, it is unusual for such a development to come out of a university institute. Naturally the work load is great, admit the scientists, mainly because they do not want to slight their teaching duties. But they have not been working alone. Together with their industrial partner Messerschmitt-Boelkow-Blohm (MBB), functional testing of the RIT 10 (10 cm ionizator diameter, 10 mN thrust) engine was conducted in late February and early March. At the DFVLR research facilities, the engine has completed more than 8,000 hours of ground operation with 2000 ignitions. An initial flight test on board the Eureca space platform will demonstrate--presumably in 1988--the spaceworthiness of the Giessen engine.

Internationally, there are about nine electric engines available, but in Groh's opinion the Giessen engine is becoming the uncontested leader in Europe; and they need not be timid in making comparisons with American, Japanese and Russian units.

The Giessen researchers see opportunities for the RIT 10 as position control engines for telecommuication satellites, mainly for large satellites which will remain in orbit for many years. About a third of the mass which has to be boosted from earth into orbit is chemical fuel for position control. For an ion engine, only a fraction of this mass will be required. The prototype of a larger ion engine, the RIT 35, with 35 cm ionization diameter--designed for 200 mN thrust--is now being readied for industrial production at MBB. In mid 1984 a contract for development of the RIT 35 was concluded with the European Space Agency (ESA). Six such engines will propel the space probe Agora planned for 1993. It will fly to and around--possible only with electric engines--the asterodis Vesta, Thetis and Hersilia which are 2.5 astronomical units from the earth (one astronomical unit = 149.6 million km). For the total mission time of 2,200 days, the required average operating time of a RIT-35 engine is 9,200 hours.

9160
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NORWAY

TELECOMMUNICATIONS AGENCY HEAD ON GOALS, PROBLEMS

Oslo AFTENPOSTEN in Norwegian 29 Jun 85 p 18

[Article by Ulf Peter Hellstrom: "Tele-Modernization Most Important"]

[Text] The modernization of telecommunications in Norway remains Televerket's [Communication Agency] foremost task and challenge in the coming years. At present, Televerket's biggest problem is the desperate shortage of qualified personnel. This was pointed out by managing director Kjell Holler who will be 60 years old today. He answered with a definite no to the question whether he could imagine being Minister of Industry today, a position he held for four years until the Kings Bay case toppled the Gerhardsen government in the summer of 1963.

Kjell Holler has become one of the veterans in public life. When Einar Gerhardsen wanted him as Minister of Industry in 1959, Holler being barely 34 years old become one of the youngest cabinet ministers after the war. During the Kings Bay case Holler found out that a storm can be coming up also in Norwegian political life.

Since then Holler, a social economist, headed among other things the insurance company Samvirke before he took over the top position in Televerket. He has lead the large government agency through a period with a certain favorable wind. Holler, who himself worked at one time as a journalist at ARBEIDERBLADET, got a considerable amount of the credit for the agency's active marketing of itself and its services, and for the conversion which Televerket continues to carry out.

"The digitalization of Norway is obviously the absolutely dominating task for Televerket in the technical area," says Holler. "This in itself is a difficult task which requires considerable insight and competence. The new digital network will have effects in so many directions that for this reason alone this modernization is a central point of our work. It makes it possible to add new services to industry equal to what the competition abroad has access to. However, it is important that the renovation will be carried out according to a plan, so that we can meet the coming demand without causing new waiting lines.

The problem for Televerket is the shortage of qualified personnel to solve these tasks. We do not have great reserves to fall back on, so that we desperately need to keep our key personnel.

Another one of Televerket's main task is rate reduction so that we establish a somewhat greater distance from the countries which are at the top scale in Europe," says Holler.

"What will happen with the employees who eventually will no longer be necessary due to the new technologies?"

"It is not true that Televerket will lay off several thousand employees. When the automation is finally complete this fall, we will have gone through a process which created serious employment problems. In the coming years we expect, however, that the natural attrition including retraining and post-education efforts will be able to ensure the necessary adjustment. Moreover, I have the feeling that the development within telecommunications with regard to new demands and services is going faster than has been expected, so that employment hardly needs to remain the big problem."

Maligned?

"Dou you have the impression that Televerket has the position as one of the country's most maligned institutions?"

" This comes in waves. As leader of Televerket from the middle seventies on I experienced a strong wave of criticism at that time. Now we are getting signals from many sources that Televerket is constantly doing a better job. As a vote of confidence said the other day: There is now an end to the daily picking on the personnel in Televerket. We can risk a new round now because of the poor conditions in the mobile telephone system in the Oslo area. We work very hard to expand the capacity and next year we will be far better equipped to cope with the traffic.

It is without doubt a fact that the average service times have improved greatly in Televerket in the past few years. Regardless of how good the times become, for a large enterprise such as Televerket with 1.6 million subscribers there will always be a certain percentage who get angry, and it is either a matter of scheduling or human error. We must simply try to improve all the time."

"How would you characterize today the development in the political life and in the press since the dramatic period during the Kings Bay Case in 1963?"

"There is now a sharper tone and more aggressive journalism, a development which can be noticed in most countries. It was very bad in the Kings Bay case and in its aftermath. But what contributed in particular to the harsh climate at that time was the fact that the Labor Party had been in power for such a long time that it must have been very frustrating to be in the opposition. It must be quite obvious that this contributed to coloring the debate at time."

Not a Minister

"Anyway, one must say consistently that the public debate remains on a relatively decent level compared to many other countries."

"So you could not see yourself as being Minister of Industry today?"

"No," Holler answers firmly. "In the early sixties there was growth and expansion in Norway in all areas. In recent years the workday of the Minister of Industry consisted to a large degree of rescue missions of all sorts. This cannot be a very pleasant situation," says Holler, who today celebrates his 60th birthday together with his family and friends at his home.

12831
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NORWAY

NEW FIRM OFFERING DATA SERVCE FOR MOBILE PHONE USERS

Oslo AFTENPOSTEN in Norwegian 13 Jun 85 p 40

[Article by Ulf Peter Hellstrom: "MobilData to Relieve Telenetwork"]

> [Text] The new mobile datasystem MobilData plans to relieve the overstrained mobile telephone system.
>
> Televerket is using the Nor-Com '85 exhibit to present the new communications service for the first time to a wider public. With the aid of a data terminal and a mobile telephone in the car the driver can establish contact with the central data computer in the main office or with an international data base on the other side of the globe.

"We are starting now a test system in the Oslo teledistrict. Experience from this will determine whether the system will be generally put in operation sometime in the fall as we plan," chief consultant Ivar Sorknes in the Teleagency tells AFTENPOSTEN.

Four of the approximately 180 channels which are in use today in the mobile telephone system NMT are set aside for the new data service. The capacity in these four channels is far greater than in the usual telephone channels, so that the traffic in these data channels will not be affected by overloaded telephone lines in the other part of the system. Therefore, Televerket hopes that transport firms and other users of mobile telephones will switch over to MobilData to a certain extent, so that the heavily criticized mobile telephone performance in the Oslo area will improve.

"Many transport firms actually do not need to base their communications with the drivers on mobile telephones after the introduction of MobilData. The data terminal in the car can send or receive messages regarding assignments, locations and transport of goods just as effectively," says Sorknes. "A lot of paper work will also disappear," the chief consultant thinks. "This type of mobile data communications has been in use in other countries for a while already, for instance in the United States. Televerket tells that in the course of three years the fire department in Phoenix, Arizona has built up a data base which contains graphic drawings for 16,000 buildings in the city, including a survey of the road network. In addition, there are manning

surveys, vacation lists and surveys of where the equipment is located. All information is retrieved by the crew during a call by depressing a key in the car.

The American police has also started to use such technology in their fight against crime. Sorknes himself tells how he was passenger in a police car when the police patrol almost by chance keyed in the license number of a passing car. The number was checked in the large central data bank of the police, and the car proved to be stolen. Thus, a police chase was underway and the driver was arrested.

Besides transport firms Televerket expects that the most important users of the system will be service personnel, salespeople and firms which establish MobilData as a link in their closed company-specific data systems. Dynamic business people with little inclination to waste time in the car could become customers.

12831
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POPULAR COMMENTS, ATTITUDES ON GEODSS INSTALLATION

Lisbon EXPRESSO in Portuguese 13 Jul 85 pp 19-21-R

[Excerpts] In a village of the Lower Alentejo the only thing to do during the hottest time of the day on a Sunday during the summertime is to seek refuge indoors. Almodovar is no exception. At midday the village streets are as empty as if someone had sounded an air-raid alarm. Even the dogs, that at less inhospitable hours amble indolently from corner to corner, disappear as if obeying a common command.

Escape from Torpor

Having followed the quiet routine of another weekend, the village returns to work, where it is just as quiet as during the 2 days that have just gone by. The only economic activity worthy of note is small-scale agriculture, but the signs of its decadence are obvious and work has grown scarce in these parts. There is no industry and commerce is limited to sale of basic necessities. The only large employer in all the municipality--with a little more than 11,000 inhabitants scattered over a vast area of 800 square kilometers--is the municipal government, which, with its current 43 work sites of various types, employs 400 and manages to greatly reduce the threat of unemployment.

The municipality of Almodovar, a village distant from any important road, a transition zone between the Alentejo plateau with its large landholdings and the Algarve with its small holdings, has become known for its very special characteristic: it is the only municipality in the Beja district not headed by communists--its presidency has been won regularly by the Socialist Party.

Beyond the abundance of infrastructure work the local government has provided, a little here and a little there, its resurgence of the last decade, nothing seems to indicate that Almodovar is escaping from its decades-long (or even permanent) torpor. Except that recently the municipality has been shaken by two pieces of news that have created enormous expectations and some questioning among its inhabitants: on the one hand, to the north, development of its copper deposits as part of the plan to exploit Alentejo pyrites; on the other hand, installation in the south of a U.S. satellite-tracking station. For such a placid land, the two projects could portend great changes.

For a little more than a year the announcement of the U.S. facilities has taken over the municipality as a topic of conversation and a source of argument. Above

all, confusion reigns, because few know what it is all about and no one knows about the benefits that may arise from it. There are those who call the tracking station a "missile tracker," or even a "missile station," far from the technical terminology used: Ground-based Electro-Optical Deep Space Surveillance (GEODSS). Others indicate correctly that it is a station for tracking objects in space, but admit that they do not know what such activity consists of.

A group of men, mostly retired, who spend Sunday morning propped up against the buttresses of the church, discuss the theme with short phrases: "It seems to be something made 'a sucapa' [translation unknown]"; "if it creates jobs, they must be for Americans, not for us"; "we should all have opposed it--then it would have brought some benefit to the municipality"; "if it were anything good it would not have come here"; "all it will bring is higher prices"; "the people were not consulted but should have been, at least to have this thing that was proposed in the Municipal Assembly, which was--I don't know what it's called--person to person" (in reference to a referendum); "they (the Americans) have eaten lunch here--I've seen their car there, there are 15 or 16 of them"; "if they build that thing there, as soon as they set foot there the Americans will do as they please--just like in Lajes, it becomes private property right away"; "what wealth will it bring? American wealth for us? What they'll do is take away anything we have left around here."

PCP Agitation

In this type of suspicion, the influence of the agitation carried out by the Communist Party can be clearly distinguished. The Beja district PCP leaders have condemned installation of the U.S. tracking station. The "Commission for Peace" of the capital of the Lower Alentejo even organized a demonstration against it last year. Despite mobilization efforts, attendance was not very great, but the propaganda has borne its fruit.

The PCP, however, discusses it in eminently political fashion, which does not seem to have been assimilated in statements by the man in the street against installation of the tracking station. Butcher Antonio Sebastiao, 33, a municipal councilman and the leading vote-getter for the APU [United People's Alliance] in this year's local elections, says: "This fits right into the policies of the PS [Socialist Party]/PSD [Social Democratic Party] government, which consists of granting big favors to the Americans, in a strategy of subservience. We don't need any military stations and everything indicates that this is part of the militarization of space. Nobody has told us yet whether or not this is true. We wanted someone to inform the populace whether the station will be connected to the U.S. space command for use in case of conflict. We think it will and in that case it would be a priority target in time of war. I am asking whether we are getting anything in return to offset such a risk."

"We are a target wherever there is anything important," replies Antonio Saleiro, 31, who is president of the municipality and also a socialist in parliament. "We are a target at the Castelo de Bode dam, we are a target at the bridge over the Tagus River, we are a target at the Beja base, we are a target in Sines."

Discreet President

Nevertheless, the president of the municipal chamber remains extremely reserved in this phase of the negotiations for installation of the Almodovar station. Many townspeople complain about the lack of information, about not knowing what is being prepared in the bilateral meetings in Lisbon and the communists, naturally, reinforce such complaints: "The president [of the chamber] doesn't want to discuss this; he has stifled debate," charges Antonio Sebastiao.

The socialist deputy explains, in his own way, this attitude: "I am not authorized to give out information," he asserts, "but rather whoever authorized it." Antonio Saleiro thus refers most questions to the government, which at the beginning of last year granted Washington's request for installation of the tracking station.

But there are other reasons for his silence: negotiations are now underway for the compensation to be given Portugal for granting permission, and it is known that the Almodovar government fought hard for its share of demands--assistance for regional development projects that total 1.5 million contos; lodgings in the municipality for nearly 50 U.S. technicians who will manage the station and their families; and logistical support for local entities. The president fears he will disrupt the process if he makes any public statements, and even refuses formal press interviews. However, when the negotiations are over, for the municipality's gain or loss, he promises to "tell all."

Thus with a feeling of uncertainty and curiosity the populace has seen groups of U.S. technicians visiting the chosen site--the highest point (577 meters) of the Caldeirao mountain range, 20 kilometers to the south of Almodovar--to make some preliminary surveys about existence of water and stability of the land.

Certain Mystery

Nobody knows how news of the request for installation of the tracking station reached the Almodovar chamber.

Antonio Saleiro believes that his municipality was chosen not because it is a PS island in an APU sea, but rather because it has excellent visibility conditions essential for installing equipment of this nature--an optical system consisting of three telescopes that gather information later processed by a set of computers at the same location.

Technological Contrast

The technology used contrasts eloquently with the way of life of the over 1,000 inhabitants of the mountain-ridge parish of S. Barnabe, where construction of the tracking station is planned.

The isolation, in fact, may be the main factor in leading the U.S. technicians to choose another place to live--presumably the Algarve coast, some tens of kilometers away. Antonio Saleiro, however, insists that his village "has everything" and is announcing investments in commercial zones, housing and lodgings at the time of the arrival of the foreigners. "Two years from now, this will be completely different," he asserts with conviction.

Reaping Benefits

Local leaders certainly do not want to lose the economic benefits that the tracking station may bring, and this feeling even extends to the PCP. Despite declaring himself "opposed to the station, under any conditions whatever," Antonio Sebastiao does not say he will reject its construction if he should be elected president of the chamber (the APU, with two councilmen, the same as the PS, is today the second strongest political force in the municipality, with a few hundred votes separating it from the socialists, and is followed by the PSD, with one councilman). His response is much more vague: "If the APU gets a majority, the people will be fully informed of everything that happens, that I can guarantee." As for the rest, he explains that the decision to build is the government's, not the municipality's, and mentions the possibility of a referendum on the subject.

And what about the specter of nuclear attack in case of conflict? Few persons seem to have been bothered by this. One of them is Manuel Henrique, 26, a worker with agricultural machinery. "In a certain sense, I am not in agreement with this," he mentions, "due to the fact that we might be endangered if there is a war." The most lucid reply probably came from a group of four youths between the ages of 16 and 18 (two laborers and two unemployed) who were conversing in the town square during the afternoon. They say they do not fear the proximity of the tracking station in case of confrontation between the superpowers, and one of them explains why: "If there is a war between those guys, the whole world will go up in smoke, not just Almodovar."

8834
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COUNTRY FIRST IN WORLD TO DIGITIZE COMMUNICATIONS NETWORK

Stockholm SVENSKA DAGBLADET in Swedish 20 Jun 85 p 28

[Article by Gote Anderson: "Sweden Leads The Way In Digital Communications"]

> [Text] Sweden is the first country in the world to digitize its telecommunications network. That means that Sweden is first in building the information society of the future.

This fact became known when Goran Rasmusson from the National Telecommunication's network department made a presentation describing the progress made in Sweden compared with their corresponding numbers in the rest of the world.

He spoke about the network's digitization and about the need for companies to receive new computerized services.

Teldok consists of the National Telecommunications Administration, the government, companies using data services, the Swedish Confederation of Trade Unions [LO] and the Swedish Central Organization of Salaried Employees [TCO]--among others. The idea is to spread knowledge about information systems hooked up to the network.

Sweden Leads

All industrial nations are now scrambling to digitize their telecommunications networks as this is the base for the information society of the future where the production on the economy becomes increasingly more efficient. Right now Sweden is ahead in this competition in two decisive fields. First, in regard to the number of lines connected to digital telephone stations.

Goran Rasmusson referred to statistics from the Telecommunications Administration published earlier in the magazine ELTEKNIK. The information refers to the turn of the year 84/85. At that time there were 4.9 million telecommunications subscriber lines in Sweden, 15 percent of which were connected to digital stations. The corresponding figure for Canada and France was 10 percent, Finland and Denmark 7 percent, Japan 1.2 percent, United States and Great Britain 0.25 percent and West Germany and Norway 0.

Corporate Switchboards

The second important factor concerns the number of large, corporate switchboards which are now digital. These digitized corporate switchboards will be the heavy users of the telecommunications network for transmitting computerized communication between--and within--corporations. The digitized switchboards will serve as channels for computerized communication to the telecommunications network.

There are about 400,000 lines in Sweden which are connected to such large digital corporate switchboards. This corresponds to about 70 percent of the total number of lines connected to large, corporate switchboards. The total figure for Western Europe is 5-10 percent and for the United States and Canada about 40 percent, according to Bertil Thorngren, head of the Telecommunications overall group planning. Sweden is ahead even in this second area.

First In The World

Sweden is also first in the world to be able to offer a nation-wide data-communications service in 1987 with a speed of 64 kbit/s. No other countries can do that at this point, says Bertil Thorngren. The speed of 64 kbit/s is 25 times greater than what today's analog communication network can do.

It also turns out that quite a number of companies need these high data communication speeds. This was expressed at the TELDOK-conference. The biggest investment will be made for Volvo's passenger cars which will have built a completely computerized system before the turn of the century for product development and production. This is called CAD-CAM. An ongoing project--named CAE--is gradually incorporating CAD-CAM Volvo. That will call for computerized services at speed of 64 kbit/s or even higher than that.

"CAE is a must for Volvo because our production runs are lower than those of our competitors," says project manager Kurt Larsson. "That is why Volvo has to have a more flexible production process."

He says that the American company, General Motors--the world's largest automobile corporation--right now is making enormous investments in this area.

Ambitious

Bertil Thorngren thinks that Volvo's CAE-project is the most ambitious enterprise in the world. No other automobile manufacturer is investing in a similar comprehensive solution--even if they introduce the new technology in some factories. Volvo is bringing in CAE to its entire industrial system.

Tofters printing business is a small company located in Ostervala, five miles northwest of Uppsala. Tofters have invested heavily in computerizing the production of printed matter. Because of this investment they have

doubled the number of employees since 1979 and seen their profits rise, says Kjell Tofter who gave an account of the company's development and needs. The problem now is the computerized communication between the company and its customers.

"We need such a telecommunications network for transmitting pictures, colored pictures, for example, and entire pages and original pictures by telefax, says Kjell Tofter.

A third example is the harbor of Gothenburg which is planning to create a digital network combined with a computerized system for information and handling of ships and their freight. The shorter time in port for the freight is calculated to amount to 30 million kronor a year in the interest profits alone.

9349
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SWITZERLAND

BROADBAND OPTIC FIBER NETWORK PLANNED

Zurich NEUE ZUERCHER ZEITUNG in German 26 Jun 85 p 45

[Text] Following the frustrating of a strictly Swiss development of an integrated communications system (IFS), recently our PTT [Postal, Telegraph, and Telephone Administration] enterprises have come up with a new concept for the future of Swiss telecommunications up to about 1995. According to Telegraph-and-Telephone general director Rudolf Trachsel, "IFS-Swissnet" is to make our country into one of the international leaders in telecommunications. A prerequisite in the intermediate term for the planned digitized fully-integrated service networks (ISDN) is a more efficient transmission network than is represented by the present copper coaxial cables. According to information from the PTT, at present the volume of tele-information system communication in Switzerland is already increasing by more than 20 percent per year, and "classical" communications services such as telephone and telex are likewise reporting record growths.

Optical-fiber technology makes it possible for the first time to have a development from the analog footpath--if this somewhat disrespectful description of the present networks is permitted--to the broadband communications superhighway. Thus the development of fiber-optic facilities first at the level of trunk and district networks is also a priority goal of the new innovation and investment push of the PTT enterprises. Given an annual construction volume of about 400 cable kilometers with more than 5,000 fiber kilometers, by 1995 a network will be developed as shown in our figure (not reproduced). If in addition one takes into consideration the development and conversion of existing twin cables and coaxial cables as well as radio-beam equipment into digital transmission systems, the share held by digital transmission will increase from 15 percent in 1985 to 77 percent by 1995. However, broadband communication for the individual subscriber, with a wide variety of services from voice to moving pictures to data communications, will not be possible until fiber-optic cables are introduced in the local exchange network, with this extending to a new "telecommunications wall outlet" in each house. At present, the international PTT authorities are grappling with the problem of the standardization of these outlets.

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